

MASTER IN FINANCE

MASTER'S FINAL WORK PROJECT

EQUITY RESEARCH:
SEMAPA – SOCIEDADE DE INVESTIMENTO E GESTÃO SGPS, S.A.

LAURA MARGARIDA NASCIMENTO CARVALHO

OCTOBER 2019

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Abstract

This Master's Final Work aims to present a company valuation of Semapa – Sociedade de Investimento e Gestão, SGPS, S.A. as the sum of the parts of the companies it owns – The Navigator Company, Secil and ETSA. This Equity Research follows the format recommended by the CFA Institute.

We choose Semapa because it came from an interest in this industry and previous knowledge. This report was made using the public information available at September 2019, and therefore any information and events after this date were not considered.

To obtain the target price, two methods were applied: one absolute and one relative. The absolute was the Discounted Cash Flow (DCF) method and the relative was the Market Multiples Approach. In the valuation of DCF was reached the Price Target of EUR 13.47 for the end of the year 2019, that represents an upside potential of 10.27% regarding the price registered by the company on September 9, 2019, of EUR 12.22, our final recommendation for Semapa is to buy. In relation to a Market Multiples Approach, that returned a Price Target of EUR 8.13, in this case, lower than the price on September 9, 2019, recorded by the Semapa shares, this fact was attributed to the specificities of the Semapa, regarding its's peers. Our risk assessment still estimates a low risk for the company.

Keywords: Semapa, SGPS, S.A.; The Navigator Company, S.A.; Secil; ETSA; Equity Research; Discounted Cash Flow; Multiples.

Resumo

Este Trabalho Final de Mestrado pretende apresentar uma avaliação da empresa Semapa – Sociedade de Investimento e Gestão, SGPS, S.A. como a soma das partes das empresas que possui – The Navigator Company, Secil e ETSA. Esta avaliação segue o formato recomendado pelo CFA Institute.

A escolha da Semapa deriva de um interesse neste sector e conhecimento prévio. Este relatório foi realizado através da informação pública disponível até setembro de 2019, e por isso, qualquer informação e evento após esta data não é considerada no trabalho.

Para a obtenção do preço-alvo, foram aplicados dois métodos: um absoluto e um relativo. O absoluto foi o Método do Discounted Cash Flow (DCF) e o relativo foi o Método de Múltiplos de Mercado. Na abordagem do DCF foi atingido o preço-alvo de 13.47€ para o fim do ano de 2019, que representa um potencial de valorização de 10.27% em relação ao preço registado pela empresa a 9 setembro de 2019, de 12.22€, sendo a nossa recomendação final para a Semapa de compra. Em relação a abordagem pelo Método de Múltiplos, retornou um preço-alvo de 8.13€, neste caso, inferior ao preço de 9 setembro de 2019 registado pelas ações da Semapa, este fato foi devido às especialidades das subsidiárias (The Navigator Company e Secil) em relação aos seus pares. A nossa avaliação do risco estima ainda um risco baixo para a empresa.

Palavras-Chave: Semapa, SGPS, S.A.; The Navigator Company, S.A.; Secil; ETSA; Avaliação; Discounted Cash Flow; Múltiplos.

Acknowledgements

The realization of this MFW was a difficult working process, that requires a lot of dedication and time, where I was challenged to apply my knowledge in Equity Valuation. This project represents the end of a very important stage of my life and would not have been possible without the support of my family, boyfriend, friends, and professors. So, I feel the duty and need of thanking all of those who made possible the accomplishment of one more step on my journey.

I should thank in the first place to my family, my boyfriend and my friends for all the help and motivation and for always being at my side in the worst and best moments since the beginning of this master. Second, to my supervisor José de Azevedo Pereira for all guidance and knowledge.

Finally, I would also like to thank ISEG, I am very grateful for this last five years of intensive learning and growth. Thank you for all.

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List of Abbreviations

APV – Adjusted Present Value

BEKP – Bleached Eucalyptus Kraft Pulp

BV – Book Value

CAPEX – Capital Expenditure

CAPM – Capital Asset Pricing Model

CAGR – Compounded Annual Growth Rate

CF – Cash Flow

CRP – Country Risk Premium

D&A – Depreciation & Amortization

D/E – Debt-to-Equity

DCF – Discounted Cash-Flow

E – Earnings

EBIT – Earning Before Interest and Taxes

EBITDA – Earnings Before Interest, Taxes, Depreciation and Amortization

EUR – Euro

EV – Enterprise Value

F – Forecasted

FCFF – Free Cash Flow to the Firm

GDP – Gross Domestic Product

IMF – International Monetary Fund

K_d – Cost of Debt

K_e or R_e – Cost of Equity

K_u – Cost of Equity

M – Million

MRP – Market Risk Premium

NWC – Net Working Capital

P – Price

P/E – Price to Earnings

PT – Price Target

R_f – Risk-free

TV – Terminal Value

UWF – Uncoated Woodfree

WACC – Weighted Average Cost of Capital

Table 1. Semapa's market data

Market Profile	
Closing Price (€):	12.22
52-week price range (€):	11.10 - 17.40
Nº Shares (million):	81.27
Market Cap (€ million):	926.48
Price Target (€):	13.47

Source: Reuters

1. Research Snapshot

(2019YE Price Target of **EUR 13.47**; **10.27%** Upside Potential; Low Risk; Final Recommendation: **BUY**; Reuters: SEM.LS; Bloomberg: SEM PL)

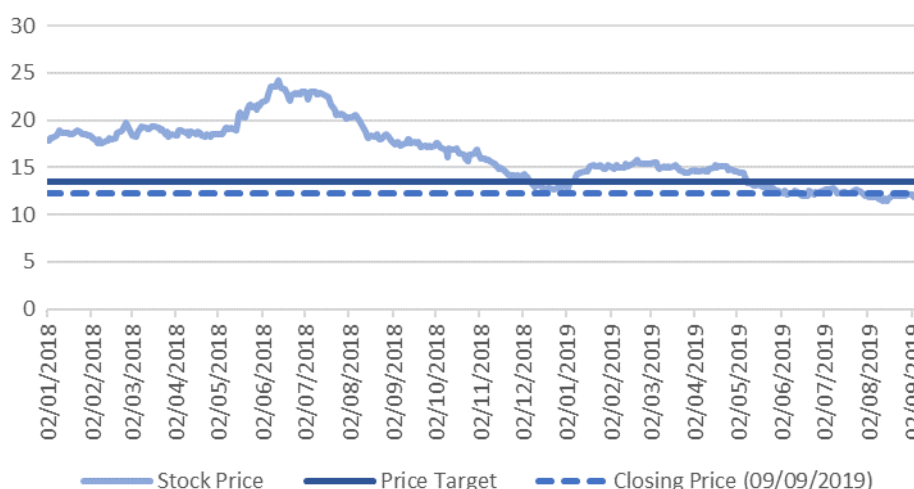


Table 2. Risk assessment on Semapa

LOW	MEDIUM	HIGH
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Source: Author

Table 3. Financial highlights

In millions of EUR	2018
Revenue	2198
Paper and Pulp	1692
Cement and derivatives	482
Environment	24
Net profit	133
Net debt	471

Source: Author

Our final recommendation for Semapa – Sociedade de Investimento e Gestão, SGPS, S.A. stands at **BUY**, with a YE2019 target price of EUR 13.47 and an upside potential of 10.27% concerning the last closing price of EUR 12.22 on September 9th, 2019. The target price is computed using the DCF approach as the main model. To substantiate this recommendation, we use another methodology – Market Multiple Approach. Considering the market approach, the recommendation would be to sell. In our view, the second model's downside potential arises from differences in size and footprint between the subsidiaries of Semapa (The Navigator Company and Secil Group) and its closest competitors. Hence, in our opinion, this model shows the least reliable price estimation.

Sensitivity Analysis was used to assess the investment risk. To compute this analysis one variable was used, the WACC. Based on this analysis, we concluded that changes in that variable will lead to a large impact on the target price. For instance, a change in Secil's WACC to 9% and Navigator's WACC to 11%, with everything else remaining constant, would lead the target price to change to EUR 17.99 – our recommendation would naturally stand – buy.

Table 4. Effects of changing WAAC in price

	Change in WACC						
WACC -Secil	9.00%	9.50%	10.00%	10.98%	11.00%	11.50%	12.00%
Market Value - Secil	250.36	210.85	176.45	120.52	119.55	95.79	74.53
WACC - Navigator	11.00%	11.50%	12.00%	12.61%	13.00%	13.50%	14.00%
Price - Navigator	3.97	3.74	3.53	3.31	3.18	3.03	2.89
Target Price - Semapa	17.99	16.47	15.12	13.47	12.84	11.86	10.97
Δ Price Semapa	33.51%	22.25%	12.24%	0.00%	-4.74%	-12.01%	-18.59%

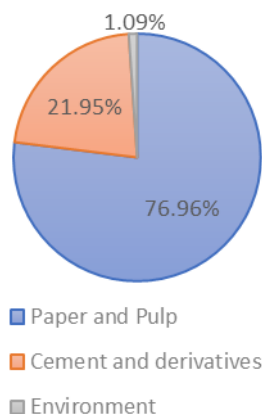
Source: Estimates

Table 5. Semapa's brief profile

Type	Anonymous Society
Trade as	Euronext Lisboa
Founded	1991
Headquarters	Lisboa, Portugal
Subsidiaries	The Navigator Company, Secil and Group ETSA
Key people	Chairman: Heinz-Peter Elstrodt; CEO: João Castello Branco
Number of Employees (2018)	6,054
Auditor	KPMG

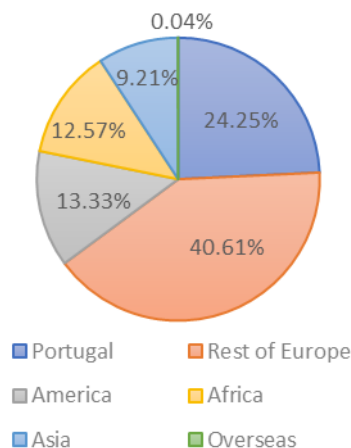
Source: Corporate Data - Semapa

Figure 1. Semapa's Segment Revenues Structure (2018)



Source: Corporate Data - Semapa

Figure 2. Semapa's Region Revenues Structure (2018)



Source: Corporate Data - Semapa

2. Business Description

Semapa – Sociedade de Investimento e Gestão, SGPS, S.A. (Reuters: SEM.LS; Bloomberg: SEM PL) is a Portuguese holding company focused on a core business segment: Pulp & Paper. Furthermore, Semapa is also present in Cement & Other Building Materials and Environment. The Paper & Pulp segment is operated by The Navigator Company, S.A. (Navigator or Navigator Group). The Cement & Other Building Materials segment is operated by Secil – Companhia Geral de Cal e Cimento, S.A. (Secil or Secil Group). The Environment segment is operated by ETSA Investimentos, SGPS, S.A. (ETSA or ETSA Group). On 31/12/2018, Semapa retains 69.44% of the voting rights of The Navigator Company, 99.99% of the voting rights of Secil and 99.99% of voting rights of ETSA. Most recently, it retains 100% of the voting rights of Semapa Next (a Venture Capital project launched in 2018). This Portuguese company operates on several continents: Europe, North America, South America, Asia, and Africa.

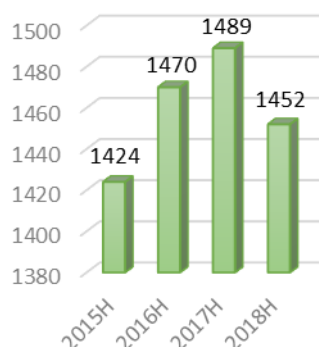
The company was founded in 1991 to bid for a stake in the privatization of Secil, the partly state-owned cement company. Afterwards, financed through several issues of new equity and debt, it acquired a financial participation Cimpor in 1998, expanding its position in the cement sector. Cimpor is a multinational company, founded in 1976, that operates in the cement sector.

In the following years, the company consolidated its leading position in Portugal. The internationalization became the next step, with acquisitions in Tunisia, Lebanon, and Angola. In 2004, the group turned to the Pulp & Paper sector, by acquiring a significant stake in the public offering that materialized second privatization of The Navigator Company, changing its strategic focus from Cement to Pulp & Paper. Semapa assured the Group's control by guaranteeing a stake of approximately 70%. Additionally, ETSA Group, that resulted from the merger of Sebol and ITS in 1997, was incorporated in Semapa Group in 2008.

At the end of 2018, its subsidiary Semapa Next started a partnership with the North American company Techstars, one of the biggest accelerators of start-ups in the world. This partnership consists of an investment in 10 start-ups picked up in sectors like industry, logistics and mobility, and tourism and leisure.

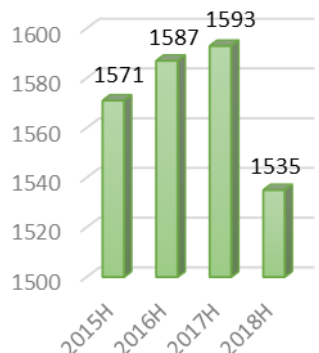
The Navigator Group is a company listed on the PSI-20 Stock Exchange since 1995 and its core business is the pulp and paper production. Its subsidiaries operate in i) the production and sales of paper – Uncoated Woodfree (UWF); ii) cellulose pulp – Bleached Eucalyptus Kraft Pulp (BEKP) and its related products: iii) purchase of wood, forest and agricultural production, cutting timber and sale of pulp and paper in Portugal, Germany, Spain, France, Italy, United Kingdom, Netherlands, Austria, Belgium, Switzerland, Morocco, Poland, Turkey, the United States of America and Mozambique, among others. The Navigator is also involved in the energy sector, generating surplus power that is introduced into the national grid, which results in a significant contribution to energy production. About 5% of all electricity generated in Portugal is generated by the Company. The company owns or manages more than 110.000 hectares of woodlands, able to produce 12 million plants a year, through a vertically integrated forestry business. Navigator owns several paper brands in order to satisfy different needs from different types of clients. Its brands can be subdivided into two groups: Office and Offset. The Office

Figure 3. BEKP Pulp production (thousand Tad)



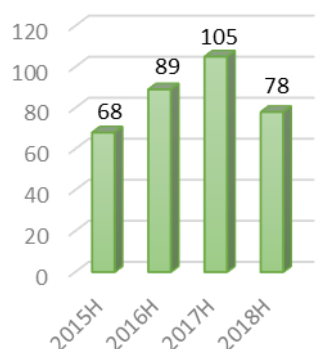
Source: Corporate Data - Semapa

Figure 4. UWF Paper production (thousand ton)



Source: Corporate Data - Semapa

Figure 5. Tissue Production (thousand ton)



Source: Corporate Data - Semapa

group is aimed for professional and domestic use. The “Navigator” is considered an office brand and it is known worldwide as the leader of premium office market paper. Nevertheless, the Offset Group is targeted for people that use graphic paper. For this specific purpose, the company operates with two brands: “Soporset” and “Inaset”.

➤ BEKP Pulp

In 1957, the company became a global pioneer by producing bleached eucalyptus pulps using the kraft process. This production process originally started to produce in Cacia in 1953. Navigator produces and sells Bleached Eucalyptus Kraft Pulp (BEKP), of which the majority of the output is integrated into the production of paper and tissue business, and only a small fraction is released to the market. It is the European leader in production of BEKP and the 5th leading producer worldwide. The pulp is produced at the company’s three mills that hold a total capacity of 1.6 million tons. 570 thousand tons per year in Setúbal, 650 thousand tons per year in Figueira da Foz and about 350 thousand tons in Cacia. Wood and chemicals are the main raw materials used.

➤ UWF Paper

In 1969, the production of paper started in Setúbal. Navigator is the leading European and the 6th leading producer of UWF paper worldwide. This type of paper is produced using chemicals and pulp produced by Navigator. This paper is sold to more than 120 countries. Currently, paper is produced at three different mills. Setúbal Industrial Complex includes two paper mills – with an overall annual capacity to produce 775 thousand tons and Figueira da Foz with an annual capacity to produce 800 thousand tons. The Navigator Group owns 9 different brands of paper sheet: Inacopia, Pioneer, Navigator and Navigator Eco-Logical, Target, Explorer, Multioffice, Discovery, Inaset, and Soporset.

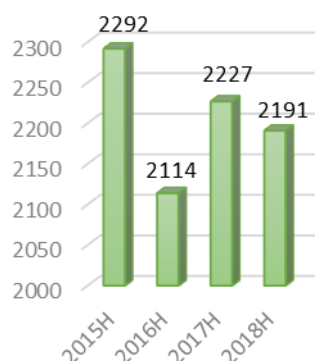
➤ Tissue

In 2015, the company entered the tissue market, considered strategic for its future expansion, through the acquisition of AMS BR Start Paper S.A.. Tissue paper is produced at two different mills. Vila Velha de Ródão holds an annual production capacity of 60.000 tons of tissue reels and 65.000 tons of finished product. In Cacia, the annual production capacity reaches 70.000 tons of reels and 55.000 tons of finished product per year. The plant in Vila Velha de Rodão is the most efficient in the Iberian Peninsula and the second most efficient in Europe.

➤ Energy

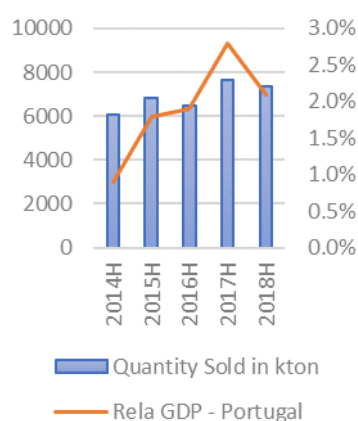
Energy is generated in three industrial sites – Setúbal, Figueira da Foz and Cacia – from three different processes – natural gas cogeneration, biomass cogeneration process and from biomass power plants. All mills comprise biomass cogeneration facilities that produce jointly energy pulp and paper. Afterwards, the corresponding energy is used for its own operations. At Figueira da Foz and Setúbal, there is a natural gas cogeneration plant, and in Setúbal and Cacia there are biomass power stations able to produce electricity that is later sold to the National grid. Hence, the Navigator Group increases the use of a renewable source of energy and decreases the use of CO₂ intensive sources. It has a capacity of production for 2.5TWh of electricity each and 52% of the energy produced from biomass. In 2018 it produced 2.2TWh.

Figure 6. Energy Production (Gwh)



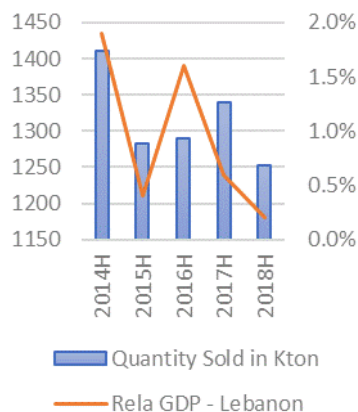
Source: Corporate Data - Semapa

Figure 7. Quantity Sold in Portugal vs Real GDP



Source: Corporate Data - Semapa and IMF

Figure 8. Quantity Sold in Lebanon vs Real GDP



Source: Corporate Data - Semapa and IMF

➤ Forest

The company manages woodlands of about 120 thousand hectares promoting the development and protection of the national forest, of which 73% is Eucalyptus globulus plantations and the rest is diversified plantations. Navigator recently increased its forest to Spain, in Galicia. The company is associated with social, environmental and educational projects.

The Secil Group is the second largest company in Semapa's Group and leads its holdings in the cement, concrete and aggregates sector. It operates in Portugal, Brazil, Lebanon, Tunisia, Angola, Netherlands, Spain and Cape Verde. The cement industry is highly dependent on the building sector in each of the geographic markets where it operates, as well as on the level of investment in infrastructures. Secil holds today a strong position, both in the domestic and foreign markets, focused on the production and sale of cement, precast concrete, ready-mix concrete and the operations of quarries at the Maceira, Pataias, Outão, Gabés (it owns facilities in the South of Tunisia since 2000), Beirut (it owns facilities in Lebanon, since 2002), Lobito (it owns facilities in Angola since 2004) and Adrianópolis (it owns facilities in Brazil since 2011). The diversification of investments across different countries leads Secil to expose itself to high levels of currency risk. This was the main reason for negative result achieved in 2018, due to devaluation of the corresponding national currencies against the Euro.

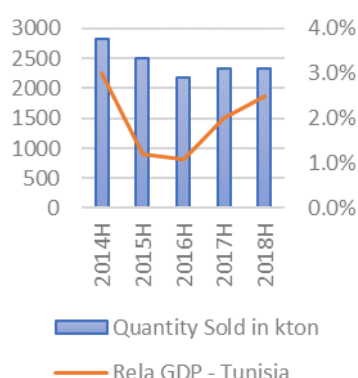
➤ Portugal

In Portugal, Secil operates through the Outão, Maceira-Liz and Cibra-Pataias plants, holding an annual capacity of cement production around 4 million tonnes. These plants produce cement and clinker and produce more than 35% of the cement consumed in Portugal. In 2018, in the domestic market, the volumes sold increased by 0,8% in relation to 2017, due to good weather conditions and the rise in private projects (tourism and residential). In the foreign market (includes the terminal sale in the Netherlands, Cape Verde, and Spain), volumes sold decreased by 17.7%. The main drivers for this evolution were the surplus supply in Europe and the fact that sale prices remain at very low levels, despite the increase in production costs (the increase in fuel and CO₂ cost). The exceptions at this level were the Netherlands and Spain (the group started production here last in April 2017), where there was an increase of around 20% in sales. That is, there was a growth from 225.000 tons to 269.000 tons in the sales of the terminals.

➤ Lebanon

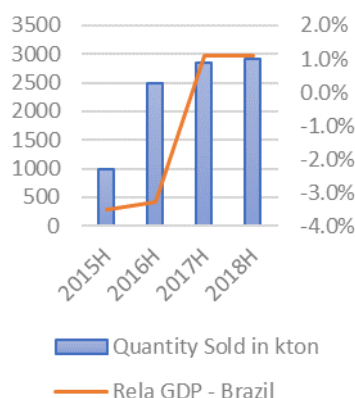
In Lebanon, Secil is the third largest Lebanese cement and clinker producer, through the Ciments de Sibline (CDS), which has an annual production capacity of 1.2 million tonnes of cement. In 2018, the overall performance of the cement segment was negative, due to the rising cost in raw materials and fuel. This market still presents significant political and economic unbalances. The domestic market registered a total sale of 1.1 million tonnes, a 6% drop in relation to 2017, that was mainly due to a fall in the cement segment. Given the highly competitive environment of the ready-mix concrete, the volumes sold were 97 thousand tonnes, 1.8% less than in the previous year.

Figure 9. Quantity Sold in Tunisia vs Real GDP



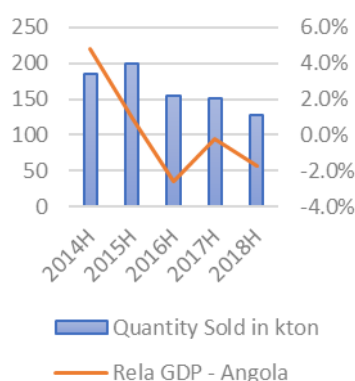
Source: Corporate Data - Semapa and IMF

Figure 10. Quantity Sold in Brazil vs Real GDP



Source: Corporate Data - Semapa and IMF

Figure 11. Quantity Sold in Angola vs Real GDP



Source: Corporate Data - Semapa and IMF

➤ Tunisia

In Tunisia, Secil produces clinker, cement, and artificial lime, through the Société des Ciments de Gabès (SCG), with an annual production capacity of 1.4 million tonnes of cement. In 2018, the domestic market reached 846 thousand tonnes, increasing 5%, as compared to 2017. In the foreign market, sales reached approximately 259 thousand tonnes, 11.6% lower than in 2017. The decline in the cement sales in the external market was compensated by an increase on the internal market, that ultimately led to an increase of 0.6% in the total sales. The main downturns of the ready-mix concrete sales in Tunisia have been due to the reduction of new projects in several markets as a consequence of the economic crisis that the country and the sector have gone through, and also due to difficulties in obtaining funding for construction output. In spite of the good performance of the cement sector, the ready-mixed concrete segment did not perform well, showing a deterioration of 10,7% in sales volume.

➤ Brazil

Secil in Brazil produces cement and clinker, through the Supremo Cimentos in two plants. Pomerode – with an annual production capacity of 400 thousand tons of cement – and Adrianópolis – with an annual production capacity of 1.8 million tonnes of cement. In 2018, cement sales reached 1.33 million tons, 4.6% above the previous year, despite the decrease in the Brazilian market. This evolution was achieved due to the organizational restructuring that allowed a decrease industrial fixed costs, maintaining a commercial strategy of growth with the opening of two new distribution centres. In 2018, there was a decline in clinker production (4.6%) due to the rise in transport costs of materials in the last quarter of the year (truck drivers' strike). Similarly, the ready-mix sales decreased 9.3% due to the lack of infrastructure works, although the real estate construction sector seems to show signs of improvement.

➤ Angola

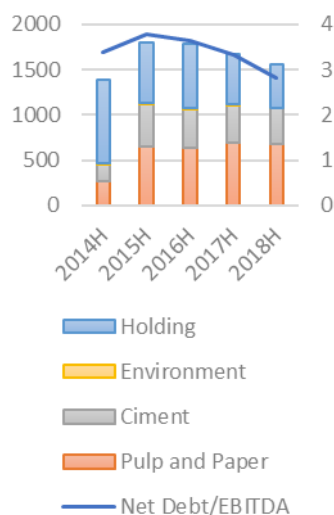
In Angola, Secil only produces cement, through Secil Angola, Investimentos e Participações, S.A., with an annual production capacity is 350.000 tonnes of cement. In 2018, the cement production decreased to 122 thousand tonnes, due to difficulty in acquiring fuels and clinker. Hence, with strong inflation, the value cement prices suffered an increase of about 31%, as compared to 2017.

ETSA Group is the smallest company in the Semapa's group, and it only represented 1% of the total revenues, in 2018. ETSA leads the Enterprise Group of environment service, a waste business involved in the collection, storage, and treatment of animal by-products.

Company Strategies

- **Commitment to developing employees** – Semapa group's human resources management is focused on the professional and personal development and growth of its employees.
- **Innovation and diversification** – Semapa Next is a new project derived from the co-investment in start-ups, that is focused on investing outside of Semapa's core sectors. Areas like Industrial and Environment Technology, Intelligent Transport and Travel, and Leisure Technology. Therefore, Semapa Next aims to allocate capital to promising start-ups in the growth phases.

Figure 12. Net Debt/EBITDA



Source: Corporate Data - Semapa and Author

- **Level of indebtedness** – Semapa’s purpose is to decrease its financial leverage that led to a Net Debt/EBITDA of 2.83x in 2018. The objective of this strategy is to increase the financial strength and low-risk profile of the company. In 2018, there was an improvement of 0.5x compared to 31 December 2017, with net debt decreasing in all areas, but with a particular emphasis on the holding company. In 2018, the main drivers for that reduction in debt were dividends received from Navigator, the payment of dividends and of financial liabilities (Figure 12).

Shareholder Structure

On 31 December 2018, the majority shareholder of Semapa was Sodim, with 71.416% of share capital and voting rights. The next major stakes were held by Bestinver (with 8.818% of share capital), and Norges Bank, the central bank of Norway, (with 2.091% of share capital) that are nowadays the biggest investors without direct links to the control family. The other 17.675% of share capital is free-floating – Figure 13 (Annual report, 2018).

Semapa Group held 640.666 own shares, corresponding to 0.78% of its share capital. These shares are traded on Euronext Lisboa. The stock price, during 2018, reached a maximum of 24.2 euros on 13 June, and a minimum of 12.66 euro on 18 December. The 2018 economic year was characterized by a high level of volatility, with growing uncertainty and tension.

3. Management and Corporate Governance

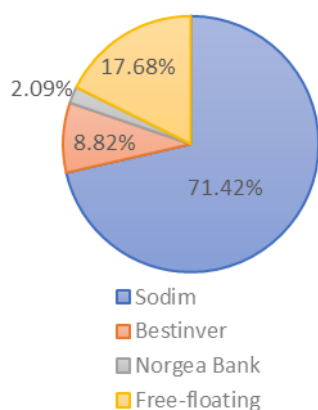
According to the Articles of Association, the company follows a governance model composed of the General Meeting, the Board of Directors, the Auditor Board, and a Statutory Auditor (Appendix G).

General Meeting - is elected by all shareholders with voting rights, and each share corresponds to one vote. The officers in charge of the general meeting are, at this moment, the Chairman of the General Meeting, Francisco Xavier Zea Mantero, and the secretary Luís Nuno Pessoa Ferreira Gaspar. These members were elected on 24 May 2018 until 31 December 2021.

Board of Directors (BoD) – is chosen by the Annual General Meeting to a four-year term. Until August 2018 the Chairman of the Board of Directors was Pedro Mendonça de Queiroz Pereira who ceased to exercise after passing away, being replaced by Hein-Peter Elstrodt on October 2018 – decided made at the meeting of the Board of Directors that took place in this month, but only starting the exercise function on 1 January 2019. Currently, the Board integrates 13 members, 4 executive directors that are members of the **Executive Committee** and 9 non-executive directors. In the case of Semapa, only 2 non-executive directors fit the criteria to be considered an independent director because they were not previously associated with the group of interests in the Company. As regards, the other non-executive directors, none respects the corresponding criteria, since they are members of companies owning qualified positions and receive remunerations for their duties (Appendix H).

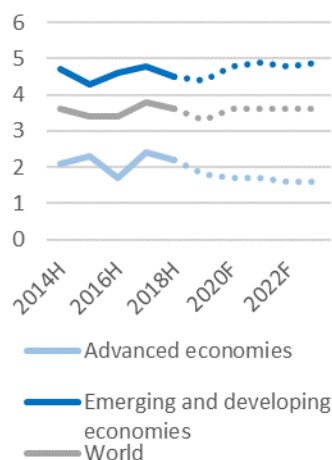
Board of Auditors – is selected by the Annual General Meeting and composed of four members: one president, two regular members, and one substitute member. This board is responsible for drawing up an annual report on its audit activities

Figure 13. Shareholder's Structure



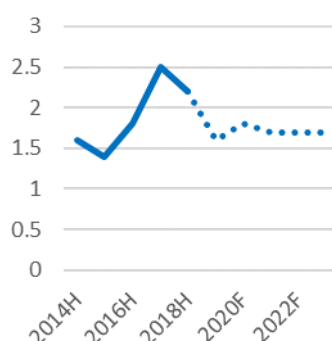
Source: Corporate Data - Semapa

Figure 14. Real GDP Growth (%)



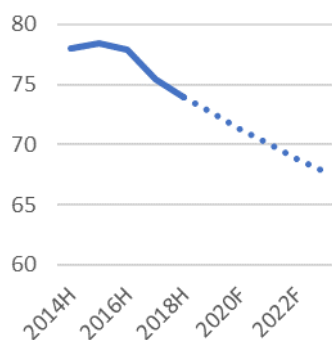
Source: IMF

Figure 15. Europe Real GDP Growth (%)



Source: IMF

Figure 16. General government gross debt



Source: IMF

about accounts and motions submitted by the directors, ensuring the compliance with law and control of the rules applicable to the company and audit services (Appendix H).

Statutory Auditor – it selected by the Board of Auditors to be approved and elected by the General Meeting. Since 2018 the statutory auditor is KPMG & Associados – SROC, S.A. represented by Paulo Alexandre Martins Quintas Paixão (ROC). The **External Auditor** is the statutory auditor. This body is responsible for supervising Semapa's accounts.

Social Responsibility

In 2018, the Semapa Group spent around 2.2 million in community welfare, families being the main beneficiaries of the corresponding donations. This Group sponsored several initiatives aimed at improving the welfare of the community and the preservation of the environment.

Semapa's sustainable strategy passes by the well-being of its employees, a strong connection with the community, and environmental protection, through several initiatives and projects as Fundação Nossa Senhora do Bom Sucesso, Associação Salvador, Liga para a Proteção da Natureza, and MDV Projeto Família. Additionally, its subsidiaries Navigator Group, Secil Group, and ETSA Group, there are sustainability into all levels of management.

4. Industry Overview and Competitive Position

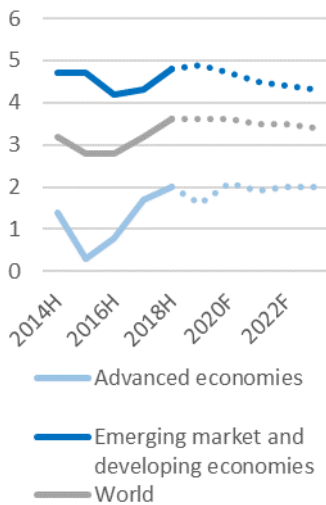
Global Economic Outlook

The **global economy** slowed particularly in the second half of 2018 and the first quarter of 2019, affecting major economies, after high growth in 2017. The forecast for 2019 implies a lower growth of GDP, at approximately 3.3 percent, as compared to 2018 – Figure 14. This occurs mainly due to the trade dispute between the USA and other trade partners, particularly China, and the implications of the Brexit. However, from 2020 until 2023, it is expected a recovery of the global economy, with an average GDP growth of 3.6 percent per year. The **economy of the more advanced countries** is projected to stay to sluggish gradually as the impact of US fiscal incentive weakens and still uncertainty about the duration of the growth cycle. The projected improvement is predicated in a gradual stabilization of conditions in stresses **emerging market economies**, including Argentina and Turkey.

In **Europe**, the growth of GDP forecast shows a downward trend. It is expected to grow at a lower rate every year until it stabilizes at 1.7 percent. Due to a combination of factors such as a weakening consumer and business feeling, and delays related to the introduction of new fuel emission standards for diesel-power cars in Germany. In Italy, the continued uncertain political situation, high levels of sovereign spreads and deceleration investment. In France, street protests resulted in a negative impact on the market. In addition, the withdrawal of the United Kingdom from the European Union creates uncertainty and weaker investor confidence.

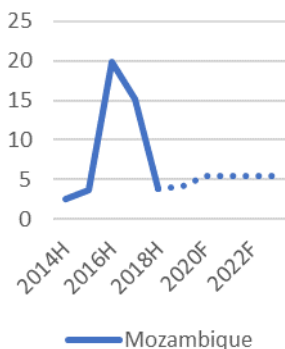
The growth in the medium term is modest because average growth in total factor productivity has a decreasing trend, the population aging will have an impact on

Figure 17. Inflation Rate (%)



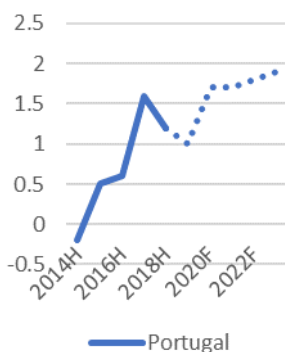
Source: IMF

Figure 18. Mozambique Inflation Rate (%)



Source: IMF

Figure 19. Portugal Inflation Rate (%)



Source: IMF

economic growth due to the reduction of the labour force, investment slowdown in the next years due to a moderate impact of geopolitical uncertainty on business sentiment and tightening of financial condition, and structural imbalances in the labour market with a higher level of unemployment. The public debt has declined moderately due to economic growth and accommodative financial condition but continues high (Figure 16).

The projections of the IMF about the global growth in April 2019 are lower than in October 2018. The forecast for 2019 drops 0.4 percentage points in relation to the forecast for 2018 and for 2020 they reveal a decrease of 0.1 percentage points. Hence, the global growth is projected at 3.3 percent in 2019 and is expected to accelerate to 3.6 percentage points in 2020 (from 3.6 percent in 2018). In this context, the global economy keeps growing, in spite of the poor performance in Europe and Asia, that should continue in 2019.

In 2018, global inflation was 3.6%, and it is expected continue until 2020. Afterwards, it is expected to decrease to 3.5% in 2021 and 2022. In emerging market and developing economies, excluding Venezuela, is expected to increase to 4.9% in 2019, after its steady decline of the past decade. In advanced economies it is expected to decrease to 1.6% in 2019.

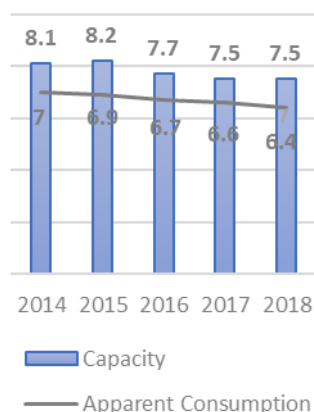
The political and economic growth in **Mozambique** is unstable, due to increasing debt levels, lower commodity exports prices, lower demand from international trading allies and reduction in investment levels. An additional contribution comes from, the increase in prices of basic imports – fuel and food. Hence, if there is no restructuring of debt and no recoverin investor trust, the economy will have slow growth. In 2019, real GDP growth is projected to be 4% and inflation 4.2%.

In **Portugal**, after growing strongly in 2017, the growth of the Portuguese economy has been declining in 2018, with a real GDP of 2.1% (from 2.8% in 2017). Even though is still well above its level during 2014. This development was sustained by increasing exports and the pick up of domestic demand. It is possible to expect a decreasing trend in 2019, with a forecasted 1.7% GDP growth and a positive performance of the labour market that is expected to see a reduction in the unemployment rate. Inflation is expected to reach 1% in 2019, and in the next years it is expected to show an increasing trend.

In **Lebanon**, according to the IMF, the economic and political situation is still unstable, with possible progress in the Syrian conflict and the natural change in terms of the Syrian refugees will tend to produce a macroeconomic effect, that it is not possible to anticipate with precision. New fiscal measures are expected in Lebanon, after a recent recovery in oil prices. Real GDP is expected an increase to 1.3% in 2019 with a tendency to increase in the next years. Inflation is expected to decrease from 6.2% in 2018 to 2% in 2019.

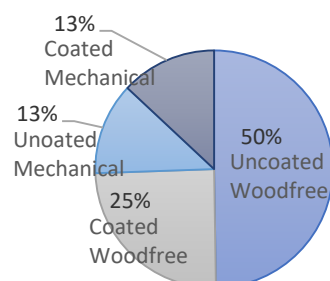
In **Tunisia**, for 2019, monetary policy is expected to remain tight aiming to stabilize foreign exchange and inflation. The IMF has projected an increase of 2.7% in real GDP growth, for 2019, and the continuation of the trend in the next years. Inflation is expected to increase 20 bps in relation 2018, and the next years is expected decrease until 2023F.

Figure 20. Evolution of European UWF Apparent Consumption (M tons)



Source: Euro-Graph; EMGE; RISI; Navigator Presentation

Figure 21. % share of each paper subgrade on world printing and writing paper demand



Source: PPPC; Navigator Presentation

The outlook for **Brazil** projects a strong pickup in growth, in 2019, with expected growth of 2.1% in 2019, above 1.1% in 2018. Although the prices have recovered, they remain highly volatile and vulnerable. An example of this is the decline in oil prices in the last quarter of 2018. Growth prospects for commodity exporters remain uncertain since the price collapse in 2014/15 due to higher levels of debt and increased political uncertainty. Inflation is projected to be 3.6% in 2019 and the next years should remain constant.

The outlook for **Angola's** economy is moderate growth. The GDP growth is projected to increase from -1.7% in 2018 to 0.4% in 2019, according to the projections of the IMF. In 2018, inflationary pressures have eased, due to decreasing interest rate levels aimed at supporting the economy and also due to the maintenance of a tight with weak exchange rates and higher inflation rates. This progress will be supported by public investment and oil production expansion.

Industry Economic Outlook

• Paper & Pulp

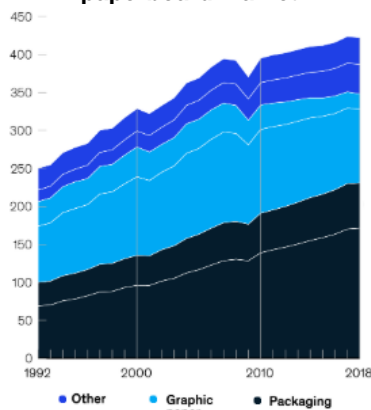
The **paper industry** is divided into two categories: graphic paper and packaging paper. Graphic papers include two grades: newspaper, and printing and writing papers (P&W). The graphic paper production is decreasing due to the digitalization and change in patterns of media consumption, whilst packaging paper production is increasing with higher demand. These contrasting directions for paper and cardboard production are expected to continue in 2019. According to the Pulp and Paper Products Council (PPPC), paper demand for UWF paper remains constant in P&W papers in 2018. The P&W papers are divided in Uncoated Woodfree (UWF), Coated Woodfree (CWF), Uncoated Mechanical and Coated Mechanical (Figure 21). In 2018, the company obtained a market share of more than 50% in Europe in the P&W paper segment.

Since 2007, the demand for Printing and Writing papers has declined due to macroeconomic factors and the decreasing use of copy and print material. To revert the potential demand decrease, slowly several P&W paper producers transformed their production lines into packaging, which allowed some balance to the P&W paper market prices. Since 2015, the antidumping case launched by the US to paper imports from several countries (including China, Australia, Indonesia, Brazil and Portugal) forced many of producers to redirect sales, mainly into Europe, resulting in a saturation of paper in the European market that pushed paper price downwards in 2016, despite the lower capacity of absorption in the market. After the paper price fall in 2016, the paper price has moved upwards until now. Since 2009 to 2017, the CAGR of European UWF Apparent Consumption decreased by 1.2% and the Capacity Production decreased 2.5% (Figure 20).

In UNECE countries, the paper and cardboard consumption decreased by about 1% in 2017 and by 0.5% in 2018, it is expected to continue to decrease in 2019 since paper is slowly being substituted by digital technology. In 2018, paper and cardboard production declined by 0.4%, according to the Committee on Forests and the Forest Industry (COFFI) for the UNECE.

To keep its competitive position in this sector, Navigator must innovate in its production methods. In 2017, paper was the most recycled product – with more

Figure 22. Global paper and paperboard market



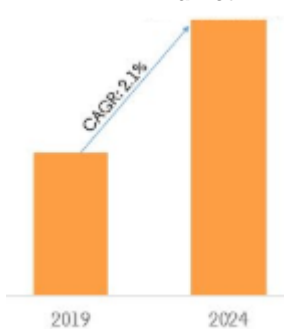
Source: RISI, McKinsey & Company

than 70% of recycling in Europe – according to the Confederation of European Paper Industries (CEPI). Therefore, this trend should advantage of the sector in the long term because paper can be utilized as an alternative to plastic, cardboard packaging being considered more environmentally friendly.

In addition, economic growth prospects are weaker for 2019 in Europe (1.7% in 2019 after 2.1% in 2018), hence the demand for packaging materials is expected to slow slightly. In the United States, demand for graphic paper has been declining and the trend continued, with a fall in demand of 0.8% in the second quarter of 2018. In contrast, demand for packaging materials has been on an upward trend over the same period. In China, paper and cardboard consumption is expected to be sustained by hearty growth in 2019 (6.2% after 6.6% in 2018).

Therefore, the paper industry is growing, even though at a slower pace than before. Despite the decline in the graphic-paper segment, other products are occupying the gap. Hence, the paper industry is not disappearing, only it is changing, modifying and improving.

Figure 23. Global Wood Pulp Market

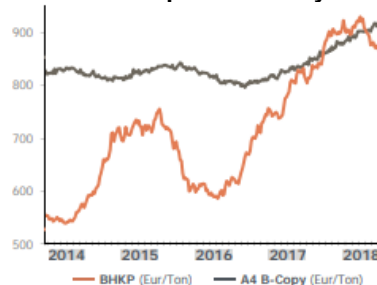


Source: Mordor Intelligence

The **pulp industry** uses two different types of processes: mechanical pulp and chemical pulp. Mechanical pulp is mainly used for applications such as newsprint and tissues. Chemical pulp is used to provide the required strength when producing papers and done by utilizing the “kraft process”. The pulp can be bleached or unbleached and can be made from hardwood or softwood timber. The Bleached Softwood Pulp (such as pine and spruce) is stronger paper with harsh finishing, with possible end use application in linerboard, packaging paper, and magazine paper. The Bleached Hardwood Pulp (such as Oaks and Eucalyptus) reveals increased printability, with possible end use applications in writing and printing and sanitary paper. Lastly, Unbleached pulp shows possible end use applications in sack paper and packaging paper.

Eucalypt is the main raw material of pulp. Wood is formed by fibres. The division and transformation of this fibre will produce pulp, that is utilized as a raw material in the papermaking process. The pulp demand depends on the capacity of the paper production as it represents the main raw material of paper. So that the principal element in pulp is the wood cellulose acquired from trees and the key element in the paper is the pulp. According to Mordor Intelligence, the wood pulp market is projected to a CAGR of 2.1% to period 2019-2024. This increase depends on increasing demand for wood pulp from the paper industry and tissue paper products, and growth in the trade of wood pulp products.

Figure 24. Pulp and Paper different price volatility



Source: FOEX; Navigator Presentation

Main production losses in 2017/2018 resulted in pulp shortage and quick market pulp price increases. The main contributing factors to the tightening of supply included catastrophic failures at major pulp facilities, trucking strikes, unexpected equipment spare time and weather impacts. Demand for fibre continues growing, world consumption is forecasted to grow by 1.3% in the long term. China maintains its role as the main growth driver in the pulp market, since it accounts for 60% of the expected market demand until 2030. The market demand growth in pulp and paper is expected to show different patterns among segments and regions, according to the study made for McKinsey & Company.

Figure 25. Wood prices



Source: Nasdaq

The cyclical nature of the pulp and paper sector is influenced by several factors, all linked with each other. The production capacity and demand are two of those factors and the price is the other relevant factor – that is ultimately driven by the capacity and demand. In the special case of The Navigator Company, the most relevant price indexes are the PIX BHKP for pulp and the PIX A4-Copy B for paper. Both the pulp and paper industries exhibit a cyclical pattern (Appendix F). The paper industry shows the most regular pattern, when compared with the pulp industry. Between 2008 and 2018, the pulp price has reached a maximum of EUR 920 and a minimum of EUR 370, corresponding to a variation of 149%. On the other hand, paper price has shown a maximum of EUR 917 and a minimum of EUR 750 – a variation of 22%. This indicates that there is higher volatility implicit in the pulp industry.

• Tissue

The **tissue paper market** is driven by socio-economic factors having a strong correlation with GDP. The packaging is growing all over the world, with tissue papers, and pulp for hygiene products. The tissue paper is typically utilized in the kitchen, toilets, and household and is expected to drive the growth of the market over the next decade. Products included in consumer tissue are being sold to supermarkets and stores or in the away-from-home segment – sold to hotel chains. The pulp is the most important cost driver in tissue, representing more than 70% of the reel and more than 50% of toilet paper. Consumer tissue will be pushed by demographic changes and buyer trends.

The tissue has become one of the most up-and-coming markets inside the Paper and Pulp Sector, as “old” paper sectors will tend to have a more questionable importance in a more technological world. The Chinese tissue market has been a very strong upswing, with new peaks in consumption and production being recorded each year. Between 2010 and 2018, Canada maintains itself as the main US import source for tissue, but China has taken the second position. However, import duty will likely restrain imports, or at least growth in imports from China from 2019 onward.

Figure 26. Crude Oil Brent



Source: Nasdaq

• Energy

Renewable **energy** can be produced from an extensive diversity of sources including wind, solar, hydro, tidal, geothermal, and biomass. Renewable energy has registered increasing technological developments over the years and biomass power has achieved shift as it uses plants, timber waste and other waste for ignition into steam. The market that is growing due to the use of biomass power reduces the need for fossil fuels to produce heat and electricity in residential, industrial and agricultural use. The global biomass power market is expanding at a fast pace and biomass power typically complements the use of natural components in the production of energy.

Crude oil prices are affected more by international markets than by assumptions regarding domestic resources and technological progress. The uncertain macroeconomics of future economic growth affect important drivers of energy demand growth. According to the EIA, the global oil demand should hold at 101.5 mbpd, in 2019 – an increase of 1.4% related to 2018, and the oil supply should stand at 102 mbpd, a hike of 2.4% compared to 2018. In Europe, the demand is

expected to stall in 2019, at almost 14.4 mbpd (+0.5%). Since 2013, renewable energy regulation about energy produced by co-generation plants has changed and consequently in a decrease of the subsidized prices paid for mills with the impact affecting progressively the plant according to the age of production activity.

• Cement and Derivatives

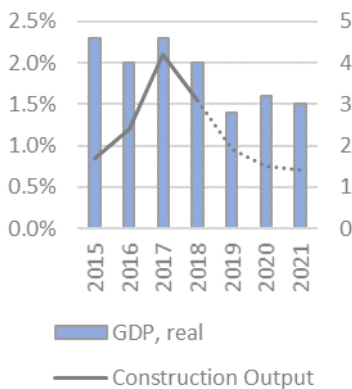
This sector is extremely unstable in terms of macroeconomic factors. As a result of the cyclical nature of the sector, most market partners tend to expand their activity outside their residing country, because different construction cycles in distinct regions help ease the sector's inherent volatility and permit – especially European – construction companies to benefit from stronger growth forecast outside Europe. Labour shortages are reaching crisis proportions and are expected to continue through 2019. The construction sector throughout the world exhibits divergent realities and different prospects for 2019. Construction companies have three main segments: buildings, infrastructure/civil engineering and concessions, and industrial construction.

In Portugal, the outlook is favourable, since the construction sector points to a slight acceleration, after a growth of 3.5% in 2018, the forecasts for 2019 estimate a real increase of 4% in the sector. The expectation for 2019, in the building construction segment, will be of a growth of 5%, through the construction of residential buildings that increase 7.5% and the construction of non-residential buildings with a growth of 2.4%. The outlook, in Brazil, is an improvement of conditions, with high expectations on the Government's infrastructure and privatization program, which may give a strong impulse to the construction sector. Improvement in the Middle East and Africa region will develop considerably in 2019-2023 averaging 5.9% a year, that compares with 3.4% in 2014-2018. In sub-Saharan Africa, the pace of growth will be averaging 6.3% a year, in 2019-2023.

The pace of global construction growth is projected to take up marginally in 2019, reaching 3.4% from 3.2% in 2018. The development is only owing to acceleration in growth in construction activity in emerging markets. But the expansion will be moderately sluggish in 2019-2023, with growth in North America slowing to 1.2%, and in Western Europe, there will be a deceleration to 2.3% a year (after recorded in 2014-2018 of 2.4%).

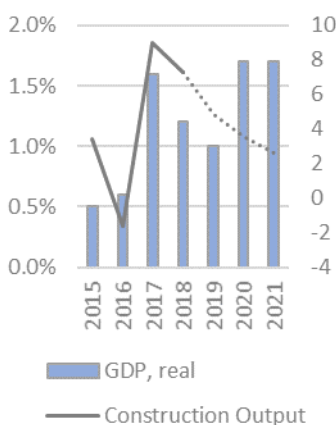
According to Euroconstruct¹, the total construction industry grew by 3.1% in 2018, but the perspective forecast for the period up to 2021 displays even slower progress, due to weakening economic growth. The short-term forecast reveals an expected slow and moderate growth. In effect, European construction is projected to increase by less than 2% in 2019, and by less than 1.5 percentage points in the next two-year period. The main factors constraining its growth are structural factors such as demographic pressure and market saturation, among others. It is expected that the infrastructure market will sustain the European construction market with an average annual growth of more than 3%. The improvement will be supported by a strong growth, of about 6% in Eastern European countries, except in Slovakia. For

Figure 27. GDP and Total construction output (EC-19) (year to year change in%)



Source: EUROCONSTRUCT, June 2019

Figure 28. GDP and Total construction output (Portugal) (year to year change in %)



Source: EUROCONSTRUCT, June 2019

¹Euroconstruct 19 members: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Hungary, Ireland, Italy, Netherlands, Norway, Poland, Portugal, Slovak Republic, Spain, Sweden, Switzerland, and United Kingdom.

Ireland, it is expected a strong increase, with a decelerating trend in the forecast period. Countries like the Netherlands, Portugal, and Spain are expected to register moderate progress, with growth rates of approximately 4%. The market expects a stagnation in the construction, in Germany and France, whilst in the UK and Italy it is projected an increase in production by less than 2% on average.

Figure 29. EUR/USD exchange rate



Source: European Central Bank

Market Conditions

Navigator and Secil operate in a large variety of markets using different currencies and are exposed to currency fluctuations. Consequently, this factor may have a considerable impact on revenues.

In the pulp and paper segment, a fraction of its sales is dominated in currencies other than Euro, the US Dollar being the most relevant. There are also, sales in Pound Sterling (GBP), Polish Zloty (PLN) and Swiss Franc (CHF) show some importance in the net earnings of the company, but naturally are less relevant. Purchase of some raw materials is made in USD, especially imports of wood pulp and softwood.

In the Cement and derivatives segment, the currency risk is mainly due to the current investments held in Brazil and to purchases of fuel and freight ships, both paid in USD. This segment operates assets located in Tunisia, Angola, and Lebanon that also have an impact on revenues.

Table 6. Multiples

The Navigator Company
Stora Enso Oyj
SAPPI Limited
ENCE Energia y Celulosa, S.A.
Domtar Corp
Secil
Cemex
Lafarge Holcim Ltd
Heidelberg Cement
SA Des Ciments Vicat-Vicat
Buzzi Unicem

Source: Estimates

Main Competitors in the Market and Peer Companies

To evaluate the competitive position in the paper and cement market and within its competitors, we performed a SWOT analysis and Porter's five forces analysis. These two approaches are explained with more detail in Appendices I and J.

A group of publicly traded companies was selected as peers to both, Navigator and Secil, in accordance to their main operational characteristics. The selection has also taken into consideration factors like revenues and industry. In the pulp & paper sector, the companies considered were Arctic Paper, Sappi, Ence Energy y Celulosa, S.A., Verso Corp, and Domtar Corp. In the Cement and Derivatives sector, the companies considered were Cemex, LafargeHolcim Ltd, Heidelberg Cement, Des Ciments Vicat, and Buzzi Unicem.

5. Investment Summary

For Semapa our recommendation stands for buy with a target price of 13.47€ using the Discounted Cash Flow Approach. The valuation through DCF resulted in an upside potential of 10.27%. We can conclude that Semapa is currently undervalued. (Table 7 and Figure 30).

Table 7. Valuation summary - Semapa

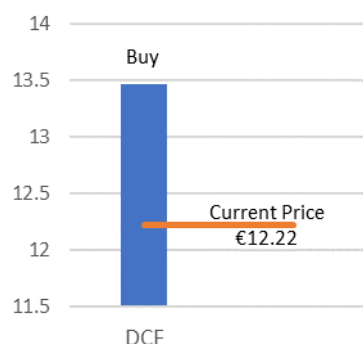
DCF method	
EUR 13.47	
Enterprise Value	EUR 1,840.17
Multiples average price	
EUR 8.13	
EV/sales price	EUR 6.39
EV/EBITDA price	EUR 11.25

Source: Estimates

Valuation Methods

Semapa is a holding company that owns a significant stakes fraction of three companies in different industries. Therefore, due to the characteristics of Semapa, will be evaluated through a SoP approach. Then, the equity value of Semapa is calculated by multiplying the market value of Pulp & Paper and Cement segments by the percentage of each ownership, adding the book value of the Environment segment. After, it's necessary to subtract the Semapa's holding net debt (Appendix P).

Figure 30. Target prices vs current price - Semapa



Source: Estimates

Table 8. Cost of Capital - The Navigator

Cost of Capital	
Risk-Free Rate (Rf)	-0.69%
Market Risk	9.02%
Premium (MRP)	
Beta levered (β)	1.75
Cost of Equity (Ke)	15.07%
Cost of Debt (kd)	3.59%
Corporate Tax Rate	22.50%
After-Tax (kd)	2.78%

Source: Estimates

Table 9. Cost of Capital - Secil

	Portugal	Angola
Rf	-0.69%	-0.69%
MRP	9.02%	14.99%
Beta levered	1.90	1.80
Ke	16.44%	26.35%
Cost of Debt	5.39%	5.39%
Tax Rate	22.50%	30.00%
After-Tax Kd	4.18%	3.78%

	Brazil	Lebanon
Rf	-0.69%	-0.69%
MRP	10.13%	14.99%
Beta levered	1.75	1.97
Ke	17.06%	28.83%
Cost of Debt	5.39%	5.39%
Tax Rate	34.00%	17.00%
After-Tax Kd	3.56%	4.48%

Tunisia	
Rf	-0.69%
MRP	13.60%
Beta levered	1.87
Ke	24.71%
Cost of Debt	5.39%
Tax Rate	25.00%
After-Tax Kd	4.04%

Source: Estimates

Investments Risks

Investors must be aware that this is an investment subject to several risks that cannot be controlled, mainly due to the fact related to the exposure of the company to a large variety of countries with different levels of to the volatility of its consumer markets. Consequently, unexpected events create are very difficult to predict and prevent. These countries may suffer from economic problems, supplier shortages, and operational problems. To evaluate the investment risk the sensitivity analysis was performed.

6. Valuation

According to the Semapa's features, the corresponding equity value will be calculated using a Discounted Cash Flow to the Firm (DCF) approach. Since the company is a holding owning 69.44% of Navigator Group, 99.99% of Secil Group and 99.99% of ETSA Group, it was necessary to evaluate each company separately, because these companies operate in different businesses, as previously mentioned. Hence, the valuation of Navigator and Secil are through DCF valuation, considering the free cash flow to the firm (FCFF) methodology, with approach WACC. ETSA will be considered at its book value as it represents less than 1% of Semapa's total revenues.

Discounted Cash Flow (DCF) Valuation Approach

Discounted Cash Flow is nowadays the more applied and acknowledged method of fundamental analysis, since it explains with detail the relationship between risk/environment and the necessary investment for the generation of future income, in a framework that is not hampered by the shortcomings inherent to book values. This method uses free cash flows and discounts them using the WACC in order to reach the present value used to assess the potential investment. In the DCF method, the valuation is normally based on two cash flow components. One is the cash flows forecasted for the period of detailed projections and the other is the residual value or continuity value.

Assumptions for the explicit forecast period

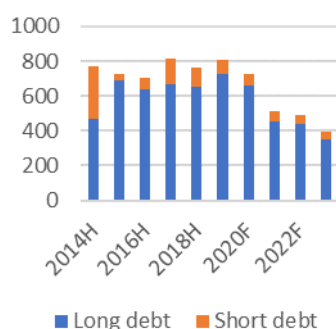
The main assumptions inherent to the method depend on the macroeconomic contexts in which the company operates.

Revenues

The sales projection was based on the analysis of external studies aimed at understanding the growth of each company: The Navigator Company and Secil Group. The main factors that drive revenues are based on population growth and their expected level of income.

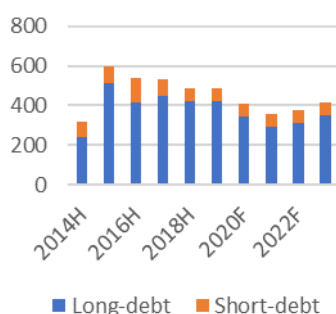
In relation to The Navigator revenue assumptions, there is no investment anticipated to increase the capacity of production. Consequently, production capacity will be assumed to remain constant in all segments of operation. The ability to use the installed capacity has been similar during the previous years. Hence, on this respect, it was adopted a slowly increasing rate until a 100% rate was achieved. The pulp sales are forecasted to remain stable (estimated to register a CAGR of 2.6% between 2019 and 2023) as we expected significant volatility in pricing. Despite the increase in capacity produced, the extra pulp will be internally used in the production of tissue. Paper sales are also forecasted to

Figure 31. The Navigator Debt evolution



Source: Author

Figure 32. Secil Debt evolution



Source: Author

remain stable on the back of stable prices, although we are estimating a slight increase in revenues in 2019 (estimated to register a CAGR of -0.1% between 2019 and 2023). The tissue is forecasted to increase, benefiting from the increased capacity, in 2018, and higher prices (estimated to register a CAGR of 7.7% between 2019 and 2023). Energy is expected to decrease, after a reduction in Brent prices in 2019, and to slowly decrease over the long term, due to the saturation of supply (estimated to register a CAGR of -0.3% between 2019 and 2023) (Appendix F).

In relation to Secil revenue assumptions, the quantities sold will grow at the respective country's GDP growth rate. The prices practiced by each country will grow at the respective inflation rate. However, as each country exports to other markets and there is no information regarding it, prices will also grow at the inflation rate of the country that exports being Portugal an exception of this rule. In Portugal, it was assumed that the quantities sold for the internal market depend on the GDP forecasted by Euroconstruct for Portugal. The external market is mainly in Europe. Therefore, external quantities sold will grow at the real GDP growth rate forecast by Euroconstruct for the 19 European countries. (Appendix F)

Operational Costs

The operational costs are forecasted as a percentage of net sales, but at a decreasing rate, because The Navigator launched a cost-cutting program M2 in 2015 focused primarily on variable costs, especially on wood, chemicals, water, and fuels. In 2016-2018, Navigator was able to save € 64 million. Due to cost-cutting, we assumed the decrease of the percentage of operational costs over revenues projected based on a percentage of total revenues in 2018. In what concerns Secil, forecasted values were obtained by multiplying the weight of operational costs over revenues, was assumed the same that 2018, due to the percentage that has been increasing in the 5 last years.

CAPEX & Depreciations

The capital expenditures of The Navigator Company were rather volatile in the previous years, given the specific investments in new mills. The CAPEX consists in three components: the expansion development that allows for expansion of the production capacity of the company, maintenance & recurring that are necessary to guarantee the continuity of the company's operating activity, and regulatory that relates to the remuneration of investments in the natural gas sector (electricity sector). Property, Plant & Equipment are depreciated at a rate of 11,3%/year (average of the previous years was assumed to be the constant depreciation rate over the explicit period). Intangible assets are related to CO₂ emission licenses, and industrial property and other rights were assumed to be depreciated at a constant rate (the depreciation rate of 5%).

The capital expenditures of Secil were also volatile in the previous years, in several countries. CAPEX was assumed in line with the historical period, being an average of the historical period. The depreciation rate assumed in the forecast was 8,13%/year for Property, Plant & Equipment (constant over the time). As intangible assets are related to industrial property, emission rights, and other intangible assets, the rate of depreciation used for this purpose was the same 5%.

Table 10. The Navigator's WACC

	2019F	TV
E/D+E	61.11%	80.00%
D/D+E	38.89%	20.00%
WACC	10.29%	12.61%

Source: Estimates

Table 11. Secil's WACC

In 2019		
E/D+E	41.62%	
D/D+E	58.38%	
	WACC	% revenues
Portugal	9.28%	58.83%
Angola	13.17%	2.58%
Brazil	9.18%	14.37%
Lebanon	14.61%	14.91%
Tunisia	12.64%	9.30%
WACC final (2019)	10.48%	

In Terminal Value

E/D+E	45.00%	
D/D+E	55.00%	
	WACC	% revenues
Portugal	9.70%	59.49%
Angola	13.93%	2.56%
Brazil	9.64%	13.86%
Lebanon	15.44%	14.59%
Tunisia	13.34%	9.50%
WACC final (TV)	10.98%	

Source: Estimates

Table 12. Multiple Price Target - Semapa

	EV/SALES	EV/EBITDA
Navigator MV	1322.698	2005.434
Target price	1.84	2.52
Secil MV	130.80	151.36
ETSA BV	70.7	70.7
Net Debt	471.30	471.30
Semapa MV	648.66	1143.31
Discount	20%	20%
MV with discount	518.93	914.65
Semapa's target price	6.39	11.25

Source: Estimates

Net Debt

In relation to The Navigator Company, the group provides details of information related to, both, current and non-current historical interest-bearing debt. Navigator invested massively in the past years. Currently, it has two bonds outstanding with maturities in 2021 and one bond with maturity in 2023. The commissions are expected to remain at the same rate as in 2018. In terms of long-term bank loans, Navigator issued four sets of investments from the European Bank of Investment (BEI). The loans BEI – Ambiente B and Energia – were issued in 2010, with maturities of 11-years and 14-years, respectively. The loan BEI – Aveiro was issued in 2016, maturing in 2028. The last one, denominated as BEI – Figueira was issued in 2018, with 10-years maturity. In 2019, the Navigator contracted a commercial paper of € 75 million and, simultaneously, a bond loan of € 50 million, both due in 2026. Finally, in 2019, the group contracted a commercial paper loan in the amount of € 65 million (7-year amortizing), replacing the commercial paper program of € 50 million. In relation to Secil, it was considered that the non-current debt will be reimbursed within the time limit that is stipulated. For current debt, the group does not disclose any information regarding the repayment condition, thus the forecasted values were considered constant.

Net Working Capital

Table 13. Change in NWC – The Navigator Company

	2019F	2020F	2021F	2022F	2023F
Inventories	233.93	236.81	240.26	239.93	242.23
Receivables and Other Current Assets	312.02	315.86	320.47	320.02	323.09
State and Other Public Entities	83.89	84.93	86.17	86.04	86.87
Payables and Other Current Liabilities	340.62	344.81	349.84	349.35	352.71
State and Other Public Entities	95.49	96.67	98.08	97.94	98.88
Net Working Capital	193.73	196.12	198.98	198.70	200.61
Change in Net Working Capital	-1.57	2.38	2.86	-0.28	1.91

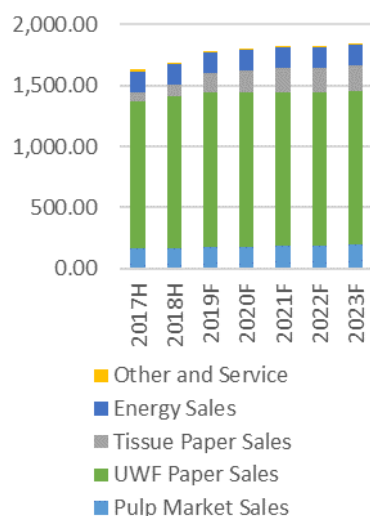
Table 14. Change in NWC – Secil

	2019F	2020F	2021F	2022F	2023F
Inventories	96.72	99.88	103.17	106.78	110.64
Trade receivables	80.98	83.62	86.38	89.40	92.63
State and Other Public Entities	19.16	19.79	20.44	21.15	21.92
Payables and Other Current Liabilities	113.56	117.27	121.14	125.38	129.90
State and Other Public Entities	42.70	44.09	45.54	47.14	48.84
Net Working Capital	40.60	41.92	43.31	44.82	46.44
Change in Net Working Capital	-1.83	1.33	1.38	1.52	1.62

Weighted Average Cost of Capital (WACC)

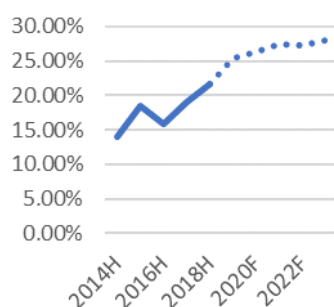
The WACC is used as a measure of the cost of capital of a firm. Generally, this variable is used to provide the discount rate for the assessment of the value of financial investments based on the DCF valuation model. To determine the WACC we need to find out the debt and equity value since these two are structurally different sources of funding of any firm (Appendix K)

Figure 33. Sales by segment – The Navigator



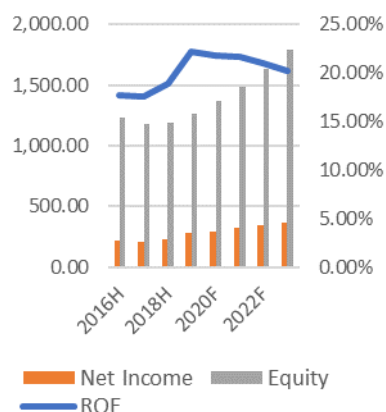
Source: Corporate data & Author

Figure 34. Gross Profit Margin – The Navigator



Source: Corporate data & Author

Figure 35. ROE – The Navigator



Source: Corporate data & Author

Relative Valuation

The relative valuation is an alternative but also relevant method that compares firm value to that of its competitors in the market, in order to calculate the firm's financial worth. Hence, in order to understand if the company is under or over valued, several different multiples of Navigator and Secil were compared to those exhibited by their main competitors. In order to apply this method, as attempt was made to identify those competitors whose characteristics are closer Navigator and Secil. (Appendix Q).

The valuation of a company can be done by using two different methods: Equity approach and Total approach. In the Equity approach, are used 3 different multiples: Price to Earnings Ratio (PER), Price to Book Value (P/BV), and Price to Sale (P/S). The Total approach method applies other 3 different multiplies related with Enterprise Value: Enterprise Value to Sales (EV/Sales), Enterprise Value to EBITDA (EV/EBITDA), and Enterprise Value to EBIT (EV/EBIT).

7. Financial Analysis

Paper, Pulp, Tissue and Energy Segment

Table 15. The Navigator's financial ratios

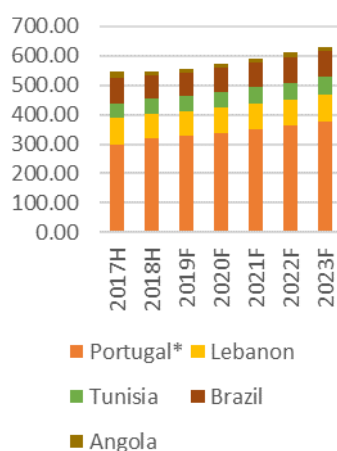
	2017H	2018H	2019F	2020F	2021F	2022F	2023F
Liquidity Ratios							
Current Ratio	1.57	1.31	1.62	1.75	1.66	1.99	2.21
Quick Ratio	1.16	0.89	1.17	1.28	1.18	1.51	1.72
Cash Ratio	0.28	0.15	0.40	0.49	0.38	0.70	0.89
Profitability Ratios							
Gross Profit Margin	18.97%	21.60%	25.47%	26.37%	27.43%	27.33%	28.02%
EBIT Margin	15.58%	17.92%	18.98%	19.83%	20.85%	21.80%	22.81%
Net Profit Margin	12.69%	13.31%	15.83%	16.55%	17.62%	18.82%	19.77%
ROE	17.54%	18.98%	22.22%	21.82%	21.64%	21.05%	20.28%
ROCE	12.84%	14.88%	15.40%	16.04%	17.79%	17.51%	17.92%
ROA	8.52%	8.78%	10.40%	10.91%	12.17%	12.39%	12.83%
Solvency Ratios							
D/E Ratio	1.06	1.16	1.14	1.00	0.78	0.70	0.58
Equity Multiplier	2.06	2.16	2.14	2.00	1.78	1.70	1.58

Over the years, the paper segment was the most significant contributor to the overall amount of **revenues** exhibited by Navigator Company. On the other hand, the energy segment is the one with the lowest weight on the Navigator company (Figure 33). The revenues are expected have an upward trend over the valuation period, with a small reduction in paper sales in 2022, due to decrease paper and energy price.

The cost of products sold is forecasted to decrease the weight they have over the revenues because of the program of restructuring (cost cutting programme). This decrease mixed with the increase in revenues will lead to an increase in the **gross profit margin** (Figure 34).

Liquidity Ratios are estimated to increase a YoY basis between 2019F and 2023F. For instance, the current ratio is forecasted to increase 1.62 to 2.21, it

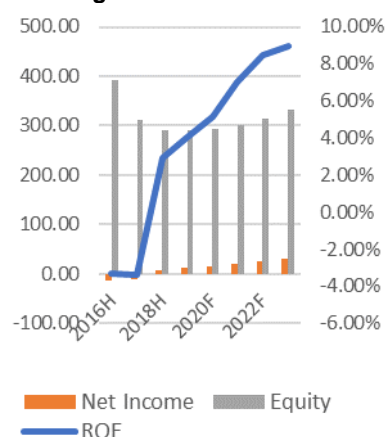
Figure 36. Sales by region – Secil



*includes sales to Holland, Cape Verde and Vigo Terminal.

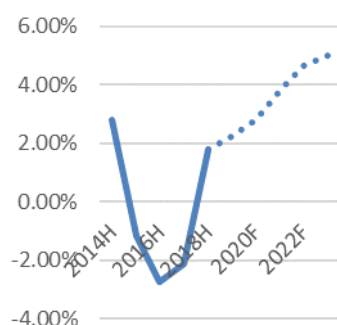
Source: Corporate data & Author

Figure 37. ROE – Secil



Source: Corporate data & Author

Figure 38. Net Profit Margin – Secil



Source: Corporate data & Author

indicates a higher ability to meet its short-term obligations, reducing the risk of financing, and quick ratio is forecasted to increase from 1.17 to 1.72.

ROE is forecasted to decrease year over year. Even with an increase in Equity, the increase in sales will not be enough to increase this ratio (Figure 35).

Cement Segment

Table 16. Secil's financial ratios

	2017H	2018H	2019F	2020F	2021F	2022F	2023F
Liquidity Ratios							
Current Ratio	1.32	1.41	1.49	1.25	1.13	1.34	1.63
Quick Ratio	0.95	0.98	1.05	0.81	0.68	0.89	1.18
Cash Ratio	0.47	0.47	0.56	0.32	0.19	0.39	0.67
Profitability Ratios							
EBIT Margin	0.92%	5.96%	6.96%	7.59%	8.17%	8.72%	9.23%
Net Profit Margin	-2.11%	1.77%	2.25%	2.83%	3.82%	4.66%	5.02%
ROE	-3.39%	2.95%	4.01%	5.17%	7.03%	8.49%	8.99%
ROCE	0.51%	3.41%	4.27%	5.25%	6.23%	6.57%	6.71%
ROA	-0.91%	0.81%	1.09%	1.51%	2.20%	2.67%	2.80%
Solvency Ratios							
D/E Ratio	2.50	2.44	2.49	2.23	2.00	2.00	2.04
Equity Multiplier	3.71	3.63	3.68	3.43	3.19	3.18	3.21

The revenue originated in Portugal represents the biggest part of Secil's revenues. On the other hand, the Angolan revenues represent the small slice of Secil's revenues. The **revenues** are projected to show an upward tendency over the valuation period (Figure 36).

The **Net Profit Margin** has been decreasing over the last years, but it's expected to increase like it happened in 2018. This happens mainly due to the increase in revenues and the maintenance of the relationship between costs and revenue (Figure 38).

ROE and ROA are expected to revert back to the positive tendency over the next years recovering from 2017 net losses (Figure 37).

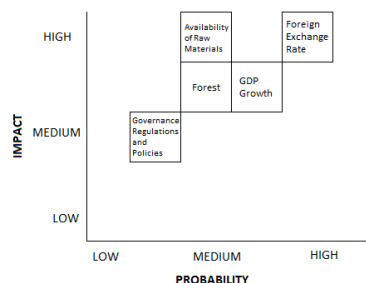
8. Investment Risks

Risks were divided into four categories: Economic and Market Risk (EMR), Legal and Regulatory Risks (LRR), Operation Risks (OR) and Environment Risk (ER).

Economic and Market Risk | Foreign Exchange Rate Risk (EMR1)

The Group operates globally, and it is subjected to changes in the relative value of currencies, which it means that it is exposed to the risk unfavourable exchanges in cross currency rates. These exchange rates have a potentially negative impact on the company accounts, due to sale is made in a currency other than in Euro. Then, some variation in exchange rates can affect both the values of revenues, and costs.

Figure 39. Risk Matrix



Source: Author

Economic and Market Risk | GDP Growth (EMR2)

The Secil is mostly dependent on the level of activity from the construction sector (residential, commercial and infrastructure) in each country, then an eventual economic downturn could hurt results, since this industry is very sensitive to GDP growth. As regards the Navigator, the demand for uncoated printing and writing paper, and tissue is affected for macroeconomic factors and demographics, whose evolution drives the demand positively or negatively.

Legal and Regulatory Risks | Governance regulations and policies (LRR1)

Global operation of Secil has more exposed to different government regulations and policies, related to tariffs, taxation, exchange controls, and property ownership rights. Regarding UWF paper imports, the Navigator has been subject to anti-dumping measures imposed by the US Department of Commerce since 2015, resulting in an evaluation of the changes in regulations and taxes.

Operation Risks | Availability of Raw Materials (OR1)

The Navigator operations are subject to the availability of certain raw materials like wood and chemicals. If faults happen in the supply of these materials, for example, a shortage of reserves or the suppliers discontinues the activity, it could have disadvantageous impacts on the operational performance. The same occurs with Secil concerning the limestone and aggregates.

Environmental Risk | Forest Risk (ER1)

The Navigator is exposed to risks related to the destruction of current and future wood inventory, belonging to the Navigator Group as well as to third parties and increasing costs of forestry and subsequent land preparation for plantation. Besides that, the low productivity of the Portuguese forest and the worldwide demand for certified products, it is expected that this competitive pressure will remain in the future.

9. Appendices

Appendix A: Statement of Financial Position

Table 17. Balance Sheet - The Navigator Company

Balance Sheet in Million Euros	2017H	2018H	2019F	2020F	2021F	2022F	2023F	CAGR
ASSETS								
NON-CURRENT ASSETS	1,726.99	1,873.12	1,872.49	1,846.93	1,809.25	1,775.83	1,746.20	-1.73%
Goodwill	377.34	377.34	377.34	377.34	377.34	377.34	377.34	0.00%
Other Intangible Assets	3.88	2.89	2.74	2.60	2.47	2.35	2.23	-5.00%
Property, Plant and Equipment	1,171.13	1,239.01	1,238.52	1,213.09	1,175.55	1,142.26	1,112.74	-2.64%
Investment Properties	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.00%
Biological Assets	129.40	119.61	119.61	119.61	119.61	119.61	119.61	0.00%
Other Financial Assets	0.42	63.17	63.17	63.17	63.17	63.17	63.17	0.00%
Deferred Tax Assets	44.73	71.01	71.01	71.01	71.01	71.01	71.01	0.00%
CURRENT ASSETS	712.14	690.74	838.08	885.48	837.64	996.67	1,092.47	6.85%
Inventories	187.80	222.38	233.93	236.81	240.26	239.93	242.23	0.88%
Receivables and Other Current Assets	237.70	307.75	312.02	315.86	320.47	320.02	323.09	0.88%
State and Other Current Assets	75.08	79.75	83.89	84.93	86.17	86.04	86.87	0.88%
Non-current Assets held for Sale	86.24							
Cash and Cash Equivalents	125.33	80.86	208.23	247.89	190.74	350.67	440.28	20.59%
TOTAL ASSETS	2,439.14	2,563.86	2,710.58	2,732.41	2,646.89	2,772.50	2,838.68	1.16%
EQUITY AND LIABILITIES								
TOTAL EQUITY	1,184.88	1,186.62	1,268.39	1,366.48	1,488.49	1,632.06	1,796.29	9.09%
Share Capital	500.00	500.00	500.00	500.00	500.00	500.00	500.00	0.00%
Treasury Shares	-1.00	-2.32	-2.32	-2.32	-2.32	-2.32	-2.32	0.00%
Fair Value Reserves	477.69	463.60	488.73	570.50	668.59	790.60	934.17	17.58%
Net Profit for the Period	207.77	225.14	281.76	298.09	322.01	343.57	364.23	6.63%
Non-Controlling Interests	0.42	0.20	0.20	0.20	0.20	0.20	0.20	0.00%
NON-CURRENT LIABILITIES	800.97	850.86	924.27	860.32	653.01	640.68	548.33	-12.24%
Deferred Tax Liabilities	83.02	66.12	66.12	66.12	66.12	66.12	66.12	0.00%
Liabilities of Defined Benefits	5.09	7.32	7.32	7.32	7.32	7.32	7.32	0.00%
Provisions	19.54	43.07	43.07	43.07	43.07	43.07	43.07	0.00%
Interest-bearing Liabilities	667.85	652.03	725.44	661.48	454.17	441.84	349.49	-16.69%
Other Non-Current Liabilities	25.47	82.32	82.32	82.32	82.32	82.32	82.32	0.00%
CURRENT LIABILITIES	453.29	526.38	517.92	505.61	505.39	499.76	494.06	-1.17%
Interest-bearing Liabilities	150.21	111.81	81.81	64.14	57.47	52.47	42.47	-15.12%
Payables and Other Current Liabilities	259.51	323.80	340.62	344.81	349.84	349.35	352.71	0.88%
State and Other Public Entities	43.57	90.78	95.49	96.67	98.08	97.94	98.88	0.88%
TOTAL LIABILITIES	1,254.26	1,377.24	1,442.19	1,365.94	1,158.40	1,140.44	1,042.39	-7.80%
TOTAL EQUITY AND LIABILITIES	2,439.14	2,563.86	2,710.58	2,732.41	2,646.89	2,772.50	2,838.68	1.16%

Table 18. Balance Sheet - The Navigator Company – Common Size

Balance Sheet in Million Euros	2017H	2018H	2019F	2020F	2021F	2022F	2023F
ASSETS							
NON-CURRENT ASSETS	70.80%	73.06%	69.08%	67.59%	68.35%	64.05%	61.51%
Goodwill	15.47%	14.72%	13.92%	13.81%	14.26%	13.61%	13.29%
Other Intangible Assets	0.16%	0.11%	0.10%	0.10%	0.09%	0.08%	0.08%
Property, Plant and Equipment	48.01%	48.33%	45.69%	44.40%	44.41%	41.20%	39.20%
Investment Properties	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Biological Assets	5.31%	4.67%	4.41%	4.38%	4.52%	4.31%	4.21%
Other Financial Assets	0.02%	2.46%	2.33%	2.31%	2.39%	2.28%	2.23%
Deferred Tax Assets	1.83%	2.77%	2.62%	2.60%	2.68%	2.56%	2.50%
CURRENT ASSETS	29.20%	26.94%	30.92%	32.41%	31.65%	35.95%	38.49%
Inventories	7.70%	8.67%	8.63%	8.67%	9.08%	8.65%	8.53%
Receivables and Other Current Assets	9.75%	12.00%	11.51%	11.56%	12.11%	11.54%	11.38%
State and Other Current Assets	3.08%	3.11%	3.10%	3.11%	3.26%	3.10%	3.06%
Non-current Assets held for Sale	3.54%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Cash and Cash Equivalents	5.14%	3.15%	7.68%	9.07%	7.21%	12.65%	15.51%
TOTAL ASSETS	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
EQUITY AND LIABILITIES							
TOTAL EQUITY	48.58%	46.28%	46.79%	50.01%	56.24%	58.87%	63.28%
Share Capital	20.50%	19.50%	18.45%	18.30%	18.89%	18.03%	17.61%
Treasury Shares	-0.04%	-0.09%	-0.09%	-0.08%	-0.09%	-0.08%	-0.08%
Fair Value Reserves	19.58%	18.08%	18.03%	20.88%	25.26%	28.52%	32.91%
Net Profit for the Period	8.52%	8.78%	10.39%	10.91%	12.17%	12.39%	12.83%
Non-Controlling Interests	0.02%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%
NON-CURRENT LIABILITIES	32.84%	33.19%	34.10%	31.49%	24.67%	23.11%	19.32%
Deferred Tax Liabilities	3.40%	2.58%	2.44%	2.42%	2.50%	2.38%	2.33%
Liabilities of Defined Benefits	0.21%	0.29%	0.27%	0.27%	0.28%	0.26%	0.26%
Provisions	0.80%	1.68%	1.59%	1.58%	1.63%	1.55%	1.52%
Interest-bearing Liabilities	27.38%	25.43%	26.76%	24.21%	17.16%	15.94%	12.31%
Other Non-Current Liabilities	1.04%	3.21%	3.04%	3.01%	3.11%	2.97%	2.90%
CURRENT LIABILITIES	18.58%	20.53%	19.11%	18.50%	19.09%	18.03%	17.40%
Interest-bearing Liabilities	6.16%	4.36%	3.02%	2.35%	2.17%	1.89%	1.50%
Payables and Other Current Liabilities	10.64%	12.63%	12.57%	12.62%	13.22%	12.60%	12.43%
State and Other Public Entities	1.79%	3.54%	3.52%	3.54%	3.71%	3.53%	3.48%
TOTAL LIABILITIES	51.42%	53.72%	53.21%	49.99%	43.76%	41.13%	36.72%
TOTAL EQUITY AND LIABILITIES	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Table 19. Balance Sheet – Secil

Balance Sheet in Million Euros	2017H	2018H	2019F	2020F	2021F	2022F	2023F	CAGR
ASSETS								
NON-CURRENT ASSETS	824.57	758.42	735.81	714.75	695.14	676.86	659.82	-2.69%
Property, Plant and Equipment	571.15	518.69	503.47	489.49	476.64	464.84	454.00	-2.55%
Investment Property	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.00%
Goodwill	169.03	153.64	147.58	141.76	136.17	130.81	125.65	-3.94%
Intangible Assets	23.81	26.47	25.15	23.89	22.69	21.56	20.48	-5.00%
Financial investments - equity method	1.98	2.05	2.05	2.05	2.05	2.05	2.05	0.00%
Other financial investments	3.53	0.19	0.19	0.19	0.19	0.19	0.19	0.00%
Other receivables	2.63	2.16	2.16	2.16	2.16	2.16	2.16	0.00%
Deferred Tax Assets	52.08	52.59	52.59	52.59	52.59	52.59	52.59	0.00%
Other Financial Assets	0.07	2.33	2.33	2.33	2.33	2.33	2.33	0.00%
CURRENT ASSETS	330.17	301.49	334.04	287.84	265.18	323.10	403.21	4.82%
Inventories	91.92	90.35	96.72	99.88	103.17	106.78	110.64	3.42%
Trade receivables	61.22	61.87	62.51	64.55	66.68	69.01	71.50	3.42%
State and Other public entities	37.08	17.90	19.16	19.79	20.44	21.15	21.92	3.42%
Other receivables	18.37	18.29	18.47	19.07	19.70	20.39	21.13	3.42%
Deferred assets	1.28	1.78	1.78	1.78	1.78	1.78	1.78	0.00%
Other Financial Assets	0.93	1.26	1.26	1.26	1.26	1.26	1.26	0.00%
Non-current Assets held for Sale	1.96	8.53	8.53	8.53	8.53	8.53	8.53	0.00%
Cash and Cash Equivalents	117.41	101.51	125.62	72.99	43.62	94.17	166.38	7.28%
TOTAL ASSETS	1,154.74	1,059.91	1,069.85	1,002.59	960.32	999.96	1,063.03	-0.16%
EQUITY AND LIABILITIES								
TOTAL EQUITY	374.65	348.36	347.02	349.16	357.32	371.03	387.83	2.82%
Paid-up capital	264.60	224.18	224.18	224.18	224.18	224.18	224.18	0.00%
Treasury Shares	-22.61							0.00%
Other equity instruments	140.00	136.50	136.50	136.50	136.50	136.50	136.50	0.00%
Fair Value Reserves	-49.85	-72.77	-77.16	-78.51	-76.37	-68.20	-54.49	-8.33%
Consolidated net income for the year	-20.63	3.87	6.92	10.40	16.43	21.97	25.06	37.96%
Minority interests	63.13	56.58	56.58	56.58	56.58	56.58	56.58	0.00%
NON-CURRENT LIABILITIES	529.75	497.61	498.54	423.99	368.19	388.27	428.28	-3.73%
Provisions	22.87	22.21	22.21	22.21	22.21	22.21	22.21	0.00%
Interest-bearing Liabilities	450.75	421.35	422.27	347.71	291.93	312.03	352.08	-4.44%
Post-employment benefit liabilities	1.79	2.34	2.34	2.34	2.34	2.34	2.34	0.00%
Deferred Tax Liabilities	54.07	51.40	51.40	51.40	51.40	51.40	51.40	0.00%
Other financial liabilities	0.26	0.32	0.32	0.32	0.32	0.32	0.32	0.00%
CURRENT LIABILITIES	250.35	213.93	224.29	229.45	234.80	240.67	246.91	2.43%
Trade payables	59.23	69.44	74.33	76.76	79.29	82.06	85.03	3.42%
Advances from customers	2.75	3.04	3.04	3.04	3.04	3.04	3.04	0.00%
State and Other Public Entities	60.23	39.89	42.70	44.09	45.54	47.14	48.84	3.42%
Interest-bearing loans and borrowings	80.70	64.46	64.52	64.58	64.63	64.69	64.74	0.08%
Other accounts payable	46.69	36.65	39.23	40.51	41.85	43.31	44.88	3.42%
Liabilities directly associated with non-current assets held for sale	0.06							0.00%
Other financial liabilities	0.26	0.02	0.02	0.02	0.02	0.02	0.02	0.00%
Deferred liabilities	0.43	0.44	0.44	0.44	0.44	0.44	0.44	0.00%
TOTAL LIABILITIES	780.10	711.55	722.83	653.43	602.99	628.93	675.20	-1.69%
TOTAL EQUITY AND LIABILITIES	1,154.74	1,059.91	1,069.85	1,002.59	960.32	999.96	1,063.03	-0.16%

Table 20. Balance Sheet – Secil – Common Size

Balance Sheet in Million Euros	2017H	2018H	2019F	2020F	2021F	2022F	2023F
ASSETS							
NON-CURRENT ASSETS	71.41%	71.56%	68.78%	71.29%	72.39%	67.69%	62.07%
Property, Plant and Equipment	49.46%	48.94%	47.06%	48.82%	49.63%	46.49%	42.71%
Investment Property	0.02%	0.03%	0.03%	0.03%	0.03%	0.03%	0.03%
Goodwill	14.64%	14.50%	13.79%	14.14%	14.18%	13.08%	11.82%
Intangible Assets	2.06%	2.50%	2.35%	2.38%	2.36%	2.16%	1.93%
Financial investments - equity method	0.17%	0.19%	0.19%	0.20%	0.21%	0.21%	0.19%
Other financial investments	0.31%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%
Other receivables	0.23%	0.20%	0.20%	0.22%	0.22%	0.22%	0.20%
Deferred Tax Assets	4.51%	4.96%	4.92%	5.25%	5.48%	5.26%	4.95%
Other Financial Assets	0.01%	0.22%	0.22%	0.23%	0.24%	0.23%	0.22%
CURRENT ASSETS	28.59%	28.44%	31.22%	28.71%	27.61%	32.31%	37.93%
Inventories	7.96%	8.52%	9.04%	9.96%	10.74%	10.68%	10.41%
Trade receivables	5.30%	5.84%	5.84%	6.44%	6.94%	6.90%	6.73%
State and Other public entities	3.21%	1.69%	1.79%	1.97%	2.13%	2.12%	2.06%
Other receivables	1.59%	1.73%	1.73%	1.90%	2.05%	2.04%	1.99%
Deferred assets	0.11%	0.17%	0.17%	0.18%	0.19%	0.18%	0.17%
Other Financial Assets	0.08%	0.12%	0.12%	0.13%	0.13%	0.13%	0.12%
Non-current Assets held for Sale	0.17%	0.81%	0.80%	0.85%	0.89%	0.85%	0.80%
Cash and Cash Equivalents	10.17%	9.58%	11.74%	7.28%	4.54%	9.42%	15.65%
TOTAL ASSETS	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
EQUITY AND LIABILITIES							
TOTAL EQUITY	32.44%	32.87%	32.44%	34.83%	37.21%	37.10%	36.48%
Paid-up capital	22.91%	21.15%	20.95%	22.36%	23.34%	22.42%	21.09%
Treasury Shares	-1.96%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Other equity instruments	12.12%	12.88%	12.76%	13.61%	14.21%	13.65%	12.84%
Legal Reserves	-4.32%	-6.87%	-7.21%	-7.83%	-7.95%	-6.82%	-5.13%
Consolidated net income for the year	-1.79%	0.37%	0.65%	1.04%	1.71%	2.20%	2.36%
Minority interests	5.47%	5.34%	5.29%	5.64%	5.89%	5.66%	5.32%
NON-CURRENT LIABILITIES	45.88%	46.95%	46.60%	42.29%	38.34%	38.83%	40.29%
Provisions	1.98%	2.10%	2.08%	2.22%	2.31%	2.22%	2.09%
Interest-bearing Liabilities	39.03%	39.75%	39.47%	34.68%	30.40%	31.20%	33.12%
Post-employment benefit liabilities	0.16%	0.22%	0.22%	0.23%	0.24%	0.23%	0.22%
Deferred Tax Liabilities	4.68%	4.85%	4.80%	5.13%	5.35%	5.14%	4.84%
Other financial liabilities	0.02%	0.03%	0.03%	0.03%	0.03%	0.03%	0.03%
CURRENT LIABILITIES	21.68%	20.18%	20.96%	22.89%	24.45%	24.07%	23.23%
Trade payables	5.13%	6.55%	6.95%	7.66%	8.26%	8.21%	8.00%
Advances from customers	0.24%	0.29%	0.28%	0.30%	0.32%	0.30%	0.29%
State and Other Public Entities	5.22%	3.76%	3.99%	4.40%	4.74%	4.71%	4.59%
Interest-bearing loans and borrowings	6.99%	6.08%	6.03%	6.44%	6.73%	6.47%	6.09%
Other accounts payable	4.04%	3.46%	3.67%	4.04%	4.36%	4.33%	4.22%
Liabilities directly associated with non-current assets held for sale	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Other financial liabilities	0.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Deferred liabilities	0.04%	0.04%	0.04%	0.04%	0.05%	0.04%	0.04%
TOTAL LIABILITIES	67.56%	67.13%	67.56%	65.17%	62.79%	62.90%	63.52%
TOTAL EQUITY AND LIABILITIES	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Appendix B: Income Statement

Table 21. Income Statement - The Navigator Company

Income Statement in Million Euros	2017H	2018H	2019F	2020F	2021F	2022F	2023F
Revenue	1,636.83	1,691.63	1,779.50	1,801.39	1,827.68	1,825.12	1,842.64
<i>% Revenue</i>	3.77%	3.35%	5.19%	1.23%	1.46%	-0.14%	0.96%
Pulp Market Sales	164.00	167.00	178.91	179.90	183.85	185.05	198.44
UWF Paper Sales	1,204.00	1,248.00	1,267.12	1,266.27	1,262.31	1,259.59	1,259.98
Tissue Paper Sales	74.00	91.00	152.60	178.97	201.67	205.07	205.07
Energy Sales	175.00	173.00	168.24	163.62	167.22	162.78	166.52
Other and Service	19.83	12.63	12.63	12.63	12.63	12.63	12.63
Other operating Income	30.03	46.91	38.66	39.14	39.71	39.65	40.03
Change in Fair Value of Biological assets	3.78	-9.78	0.00	0.00	0.00	0.00	0.00
COSTS	-1,266.81	-1,273.54	-1,326.30	-1,329.18	-1,335.09	-1,319.89	-1,319.24
Cost of inventories sold and consumed	-652.19	-700.24	-729.25	-730.84	-734.09	-725.73	-725.37
Cost of materials and services consumed	-407.75	-414.92	-432.11	-433.05	-434.98	-430.03	-429.82
Variation in production	-25.30	44.69	46.54	46.64	46.85	46.31	46.29
Payroll costs	-156.04	-161.63	-168.33	-168.69	-169.44	-167.51	-167.43
Other costs and losses	-25.53	-41.43	-43.14	-43.24	-43.43	-42.93	-42.91
EBITDA	403.84	455.22	491.87	511.34	532.29	544.88	563.44
<i>EBITDA margin</i>	24.67%	26.91%	27.64%	28.39%	29.12%	29.85%	30.58%
Provisions	-4.08	-13.55	-13.55	-13.55	-13.55	-13.55	-13.55
Depreciation, Amort. and Imp. losses	-144.70	-138.51	-140.63	-140.57	-137.68	-133.41	-129.63
Operational Results - EBIT	255.05	303.16	337.69	357.23	381.07	397.92	420.26
Net financial Results	-7.70	-22.49	-25.20	-26.63	-23.94	-16.88	-16.31
Profit Before Tax - EBT	247.35	280.67	312.49	330.60	357.13	381.04	403.95
Income Tax Expense	-39.58	-55.54	-30.73	-32.51	-35.12	-37.47	-39.72
Non-Controlling Interests	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Income	207.77	225.14	281.76	298.09	322.01	343.57	364.23

Table 22. Income Statement - The Navigator Company - Common Size

Income Statement in Million Euros	2017H	2018H	2019F	2020F	2021F	2022F	2023F
Revenue	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Pulp Market Sales	10.02%	9.87%	10.05%	9.99%	10.06%	10.14%	10.77%
UWF Paper Sales	73.56%	73.78%	71.21%	70.29%	69.07%	69.01%	68.38%
Tissue Paper Sales	4.52%	5.38%	8.58%	9.94%	11.03%	11.24%	11.13%
Energy Sales	10.69%	10.23%	9.45%	9.08%	9.15%	8.92%	9.04%
Other and Service	1.21%	0.75%	0.71%	0.70%	0.69%	0.69%	0.69%
Other operating Income	1.83%	2.77%	2.17%	2.17%	2.17%	2.17%	2.17%
Change in Fair Value of Biological assets	0.23%	-0.58%	0.00%	0.00%	0.00%	0.00%	0.00%
COSTS	-77.39%	-75.28%	-74.53%	-73.79%	-73.05%	-72.32%	-71.60%
Cost of inventories sold and consumed	-39.84%	-41.39%	-40.98%	-40.57%	-40.17%	-39.76%	-39.37%
Cost of materials and services consumed	-24.91%	-24.53%	-24.28%	-24.04%	-23.80%	-23.56%	-23.33%
Variation in production	-1.55%	2.64%	2.62%	2.59%	2.56%	2.54%	2.51%
Payroll costs	-9.53%	-9.55%	-9.46%	-9.36%	-9.27%	-9.18%	-9.09%
Other costs and losses	-1.56%	-2.45%	-2.42%	-2.40%	-2.38%	-2.35%	-2.33%
EBITDA	24.67%	26.91%	27.64%	28.39%	29.12%	29.85%	30.58%
Provisions	-0.25%	-0.80%	-0.76%	-0.75%	-0.74%	-0.74%	-0.74%
Depreciation, Amort. and Imp. losses	-8.84%	-8.19%	-7.90%	-7.80%	-7.53%	-7.31%	-7.04%
Operational Results - EBIT	15.58%	17.92%	18.98%	19.83%	20.85%	21.80%	22.81%
Net financial Results	-0.47%	-1.33%	-1.42%	-1.48%	-1.31%	-0.92%	-0.89%
Profit Before Tax - EBT	15.11%	16.59%	17.56%	18.35%	19.54%	20.88%	21.92%
Income Tax Expense	-2.42%	-3.28%	-1.73%	-1.80%	-1.92%	-2.05%	-2.16%
Non-Controlling Interests	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Net Income	12.69%	13.31%	15.83%	16.55%	17.62%	18.82%	19.77%

Table 23. Income Statement – Secil

Income Statement in Million Euros		2017H	2018H	2019F	2020F	2021F	2022F	2023F
Revenue		499.53	484.41	518.54	535.47	553.12	572.48	593.16
	Portugal	298.07	321.09	327.72	338.91	350.44	362.71	375.78
	Lebanon	92.11	82.00	83.07	84.73	86.85	89.37	92.14
	Tunisia	48.21	50.46	51.83	53.48	55.36	57.63	59.99
	Brazil	86.73	78.40	80.04	82.04	83.85	85.69	87.58
	Angola	20.64	14.33	14.39	14.80	15.13	15.58	16.18
	Intercompany	-46.23	-61.87	-38.50	-38.50	-38.50	-38.50	-38.50
Other income		31.52	43.97	39.02	40.30	41.63	43.08	44.64
Own work capitalised		0.99	0.10	0.10	0.10	0.10	0.10	0.10
Operational Costs								
Consumed and Sold Inventories		-149.55	-151.75	-162.44	-167.75	-173.27	-179.34	-185.82
Services and Materials Consumed		-185.01	-180.01	-192.69	-198.98	-205.54	-212.73	-220.42
Payroll cost		-87.61	-79.49	-85.09	-87.87	-90.77	-93.95	-97.34
Change in Production inventories		-0.49	-0.12	-0.13	-0.13	-0.14	-0.14	-0.15
Other costs		-19.78	-25.26	-27.04	-27.93	-28.85	-29.86	-30.94
Impairment of Inventories		-0.83	1.74	1.74	1.74	1.74	1.74	1.74
Impairment of Accounts Receivable		-0.88	0.01	0.01	0.01	0.01	0.01	0.01
Appropriated Earnings of Associates and Joint Controlled entities		1.05	0.94	0.94	0.94	0.94	0.94	0.94
EBITDA		88.93	94.53	92.95	95.90	98.97	102.33	105.93
Depreciation and amortisation		-58.60	-58.18	-49.57	-48.02	-46.59	-45.27	-44.04
Provisions		0.17	-5.52	-5.52	-5.52	-5.52	-5.52	-5.52
Impairment of depreciable/amortisable assets		-25.90	-1.97	-1.79	-1.73	-1.69	-1.64	-1.60
Operating Profit - EBIT		4.61	28.86	36.08	40.62	45.16	49.90	54.77
Net financial Results		-31.88	-23.03	-21.05	-21.10	-17.87	-15.45	-16.33
Profit Before Taxation - EBT		-27.27	5.83	15.03	19.52	27.30	34.45	38.44
Corporate Income Tax		16.70	2.76	-3.38	-4.39	-6.14	-7.75	-8.65
Net Income		-10.56	8.60	11.64	15.13	21.15	26.70	29.79
Minority Interest		-10.07	-4.73	-4.73	-4.73	-4.73	-4.73	-4.73
Attributable to Secil Company's Shareholders		-20.63	3.87	6.92	10.40	16.43	21.97	25.06

Table 24. Income Statement – Secil – Common Size

Income Statement in Million Euros		2017H	2018H	2019F	2020F	2021F	2022F	2023F
Revenue		100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
	Portugal	59.67%	66.28%	63.20%	63.29%	63.36%	63.36%	63.35%
	Lebanon	18.44%	16.93%	16.02%	15.82%	15.70%	15.61%	15.53%
	Tunisia	9.65%	10.42%	9.99%	9.99%	10.01%	10.07%	10.11%
	Brazil	17.36%	16.18%	15.44%	15.32%	15.16%	14.97%	14.76%
	Angola	4.13%	2.96%	2.77%	2.76%	2.74%	2.72%	2.73%
	Intercompany	-9.25%	-12.77%	-7.43%	-7.19%	-6.96%	-6.73%	-6.49%
Other income		6.31%	9.08%	7.53%	7.53%	7.53%	7.53%	7.53%
Own work capitalised		0.20%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%
Operational Costs								
Consumed and Sold Inventories		-29.94%	-31.33%	-31.33%	-31.33%	-31.33%	-31.33%	-31.33%
Services and Materials Consumed		-37.04%	-37.16%	-37.16%	-37.16%	-37.16%	-37.16%	-37.16%
Payroll cost		-17.54%	-16.41%	-16.41%	-16.41%	-16.41%	-16.41%	-16.41%
Change in Production inventories		-0.10%	-0.02%	-0.02%	-0.02%	-0.02%	-0.02%	-0.02%
Other costs		-3.96%	-5.22%	-5.22%	-5.22%	-5.22%	-5.22%	-5.22%
Impairment of Inventories		-0.17%	0.36%	0.33%	0.32%	0.31%	0.30%	0.29%
Impairment of Accounts Receivable		-0.18%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Appropriated Earnings of Associates and Joint Controlled entities		0.21%	0.19%	0.18%	0.18%	0.17%	0.16%	0.16%
EBITDA		17.80%	19.51%	17.93%	17.91%	17.89%	17.88%	17.86%
Depreciation and amortisation		-11.73%	-12.01%	-9.56%	-8.97%	-8.42%	-7.91%	-7.42%
Provisions		0.03%	-1.14%	-1.06%	-1.03%	-1.00%	-0.96%	-0.93%
Impairment of depreciable/amortisable assets		-5.19%	-0.41%	-0.34%	-0.32%	-0.30%	-0.29%	-0.27%
Operating Profit - EBIT		0.92%	5.96%	6.96%	7.59%	8.17%	8.72%	9.23%
Net financial results		-6.38%	-4.75%	-4.06%	-3.94%	-3.23%	-2.70%	-2.75%
Profit Before Taxation - EBT		-5.46%	1.20%	2.90%	3.65%	4.93%	6.02%	6.48%
Corporate Income Tax		3.34%	0.57%	-0.65%	-0.82%	-1.11%	-1.35%	-1.46%
Net Income		-2.11%	1.77%	2.25%	2.83%	3.82%	4.66%	5.02%
Minority Interest		-2.02%	-0.98%	-0.91%	-0.88%	-0.85%	-0.83%	-0.80%
Attributable to Secil Company's Shareholders		-4.13%	0.80%	1.33%	1.94%	2.97%	3.84%	4.23%

Appendix C: Cash Flow Statement

Table 25. Cash Flow Statement - The Navigator Company

Cash Flow in Million Euros	2018H	2019F	2020F	2021F	2022F	2023F
Operating Activities	388	449	463	481	494	508
EBIT	303	338	357	381	398	420
D&A	139	141	141	138	133	130
Income Tax	-56	-31	-33	-35	-37	-40
Δ NWC	2.19	1.57	-2.38	-2.86	0.28	-1.91
Investment Activities	-216	-140	-115	-100	-100	-100
CAPEX	-216	-140	-115	-100	-100	-100
Other Investment						
Financing Activities	-277	-182	-308	-438	-234	-319
Interest paid	-22	-25	-27	-24	-17	-16
Dividends	-200	-200	-200	-200	-200	-200
Δ Debt	-54	43	-82	-214	-17	-102
Net change in Cash		-127	-40	57	-160	-90
Beginning balance of cash	125	81	208	248	191	351
Ending balance of cash	81	208	248	191	351	440

Table 26. Cash Flow Statement - Secil

Cash Flow in Million Euros	2018H	2019F	2020F	2021F	2022F	2023F
Operating Activities	90	84	83	84	86	88
EBIT	29	36	41	45	50	55
D&A	58	50	48	47	45	44
Income Tax	3	-3	-4	-6	-8	-9
Δ NWC	0.02	1.83	-1.33	-1.38	-1.52	-1.62
Investment Activities	-25	-27	-27	-27	-27	-27
CAPEX	-25	-27	-27	-27	-27	-27
Other Investment						
Financing Activities	-82	-33	-109	-87	-8	11
Interest paid	-23	-21	-21	-18	-15	-16
Dividends	-13	-13	-13	-13	-13	-13
Δ Debt	-46	1	-74	-56	20	40
Net change in Cash	0	-24	53	29	-51	-72
Beginning balance of cash	117	102	126	73	44	94
Ending balance of cash	102	126	73	44	94	166

Appendix E: Forecasting Assumptions

Table 27. Income Statement assumptions - The Navigator Company

Income Statement Assumptions	Assumption
Inflation rate	Europe expected inflation rate by IMF
Revenues	Detailed in the appendix below
Other operating Income	Projected based on a 5-year historical average as a percentage of total revenues
Change in Fair Value of Biological assets	Difference between biological assets of the balance sheet, these values are constant the next 5 years
Operational Cost	This item includes Consumed and Sold Inventories, Services and Material Consumed, Variation in Production, Payroll Cost, and Other Cost and Losses. Projected based on a percentage of total revenues in 2018, taking into consideration the annual decrease in the weight of this item in sales over the previous 5 years.
Provision	Provisions for future operating losses are not recognized, due to provisions are reviewed on the date of the statement of financial position. Therefore, projected based in 2018.
Depreciation, Amort and Impairm. Losses	Detailed in the appendix below
Net financial Results	Projected based on a 5-year historical average as a percentage of net financial result over current and non-current interest-bearing liabilities
Income Tax	Average Effective Rate from 2014 to 2018

Table 28. Income Statement assumptions – Secil

Income Statement Assumptions	Assumption
Revenues	Detailed in the appendix below
Other income	Projected based on a 5-year historical average as a percentage of total revenues
Own work capitalised	Projected to be equal to 2018 nominal value
Operational Cost	This item includes Consumed and Sold Inventories, Services and Material Consumed, Payroll Cost, Change in Production inventories, Other Cost. Projected based on a percentage of total revenues in 2018.
Appropriated Earnings of Associates and Joint Controlled entities	Projected to be equal to 2018 nominal value
Impairment	This item includes impairment of inventories, accounts receivable, and non-depreciable/amortisable investment. Projected to be equal to 2018.
Depreciation, Amort and Impairment	Detailed in the appendix below
Net financial Results	Projected to be equal to 2018 as a percentage of net financial result over current and non-current interest-bearing liabilities
Income Tax	The statutory corporate income tax rate is expected to be stable at 22.5%, we assume the statutory rate of Portuguese

Table 29. Balance Sheet assumptions - The Navigator Company

Balance Sheet Assumptions	Assumption
Non-Current Asset	
Goodwill	Value of goodwill remain unchanged since 2014 and as there in no prospect of Navigator to acquire a new company, it will remain in accordance with the past values.
Other Intangible Assets	Will be amortized annually at 5%
Property, Plant and Equipment	By subtracting depreciation for Property, Plant and Equipment and including CAPEX.
Investment Properties	Investment properties assumed to remain constant over the forecasted period
Biological Assets	As they are recorded at fair value irregular value and do not present a significant impact on the total assets, it will also be assumed a zero investment, with its value remain unchanged
Other Financial Assets	Projected to be equal to 2018 nominal value
Available-for-sale Financial Assets	Projected to be equal to 2018 nominal value
Deferred Tax Assets	Projected to be equal to 2018 nominal value
Current Asset	
Inventories	Percentage of Total Revenue equal to 2018
Receivables and Other Current Assets	Days receivables outstanding are 66 days in 2018 and is expected to reach the industry average of 56 day by 2023F (decrease of 2 days per years starting from 2019YE)
State and Other Current Assets	Percentage of Total Revenue equal to 2018
Non-current Assets held for Sale	Projected to be equal to 2018 nominal value
Cash and Cash Equivalents	Determined through the Statement of Cash Flow
Equity	
Share Capital	Projected to be equal to 2018 nominal value
Treasury Shares	Projected to be equal to 2018 nominal value
Reserves	This item includes the fair value reserves, other reserves, currency translation, free reserves and retained earnings. Projected to be equal to the previous year plus the net profit of previous year minus dividends in the current year.
Net Profit for the Period	Determined through the Income Statement
Dividends paid in advance	Projected to be equal to 2018 nominal value
Non-Controlling Interests	Projected to be equal to 2018 nominal value
Non-Current Liabilities	
Deferred Tax Liabilities	Projected to be equal to 2018 nominal value
Liabilities of Defined Benefits	Projected to be equal to 2018 nominal value
Provisions	Projected to be equal to 2018 nominal value
Interest-bearing Liabilities	Detailed in the appendix below
Other Non-Current Liabilities	Projected to be equal to 2018 nominal value
Current Liabilities	
Interest-bearing Liabilities	Detailed in the appendix below
Payables and Other Current Liabilities	Percentage of Total Revenue equal to 2018
State and Other Public Entities	Percentage of Total Revenue equal to 2018

Table 30. Balance Sheet assumption - Secil

Balance Sheet Assumptions	Assumption
Non-Current Assets	
Property, Plant and Equipment	By subtracting depreciation for Property, Plant and Equipment and including CAPEX.
Investment Property	Investment properties assumed to remain constant over the forecasted period
Goodwill	Goodwill is subjected to impairment testing, assumed to remain constant over de period. Will be amortized annually at 3.9%
Intangible Assets	Will be amortized annually at 5%
Financial investments - equity method	Equity investment assumed to remain constant over the forecasted period
Other financial investments	Projected to be equal to 2018 nominal value
Other receivables	Projected to be equal to 2018 nominal value
Deferred Tax Assets	Projected to be equal to 2018 nominal value
Other Financial Assets	Projected to be equal to 2018 nominal value
Current Assets	
Inventories	Percentage of Total Revenue equal to 2018
Trade receivables	Days receivables outstanding are 46 days in 2018 and is expected to reach the industry average of 36 day by 2023F (decrease of 2 days per years starting from 2019YE)
Advances to suppliers	Item disappears from the balance sheet in 2015
State and Other public entities	Percentage of Total Revenue equal to 2018
Other receivables	Days receivables outstanding are 13 days in 2018 and is expected to maintain constant
Deferred assets	Projected to be equal to 2018 nominal value
Other Financial Assets	Projected to be equal to 2018 nominal value
Non-current Assets held for Sale	Projected to be equal to 2018 nominal value
Cash and Cash Equivalents	Determined through the Statement of Cash Flow
Equity	
Paid-up capital	Projected to be equal to 2018 nominal value
Treasury Shares	Item disappears from the balance sheet in 2018
Other equity instruments	Projected to be equal to 2018 nominal value
Legal Reserves	This item includes the legal reserves, other reserves, retained earnings, revaluation reserve, and other changes in capital and reserves attributable to the company's equity holders. Projected to be equal to the previous year plus the net profit of previous year minus dividends in the current year.
Consolidated net income	Determined through the Income Statement
Minority interests	Projected to be equal to 2018 nominal value
Non-Current Liabilities	
Provisions	Projected to be equal to 2018 nominal value
Interest-bearing Liabilities	Detailed in the appendix below
Post-employment benefit liabilities	Projected to be equal to 2018 nominal value
Deferred Tax Liabilities	Projected to be equal to 2018 nominal value
Other accounts payable	Item disappears from the balance sheet in 2016
Other financial liabilities	Projected to be equal to 2018 nominal value
Current Liabilities	
Trade payables	Percentage of Total Revenue equal to 2018
Advances from customers	Projected to be equal to 2018 nominal value
State and Other Public Entities	Percentage of Total Revenue equal to 2018
Related parties	Item disappears from the balance sheet in 2016
Interest-bearing loans and borrowings	Detailed in the appendix below
Other accounts payable	Percentage of Total Revenue equal to 2018
Liabilities directly associated with non-current assets held for sale	Item disappears from the balance sheet in 2018
Other financial liabilities	Projected to be equal to 2018 nominal value
Deferred liabilities	Projected to be equal to 2018 nominal value

Appendix F: Sales Breakdown Structure

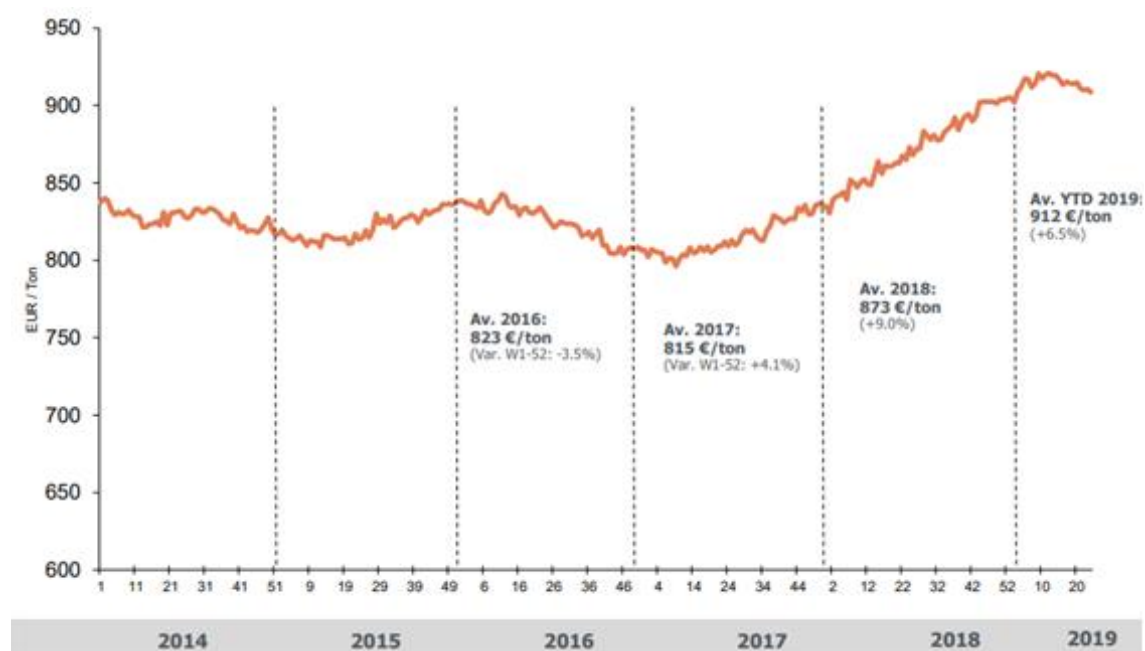
Table 31. Forecast of operational data of the paper segment

Paper	2019F	2020F	2021F	2022F	2023F	CAGR (%)
Production Capacity (thousand ton)	1600	1600	1600	1600	1600	0.0%
Production total (thousand ton)	1552	1568	1585	1602	1620	1.1%
Capacity Utilization Rate	97.0%	98.0%	99.1%	100.1%	101.2%	
Quantity Sold (thousand ton)	1537	1537	1533	1530	1530	-0.1%
Quantity Sold (million €)	1267	1266	1262	1260	1260	-0.1%
Average sale price (€/ton)	824	824	823	823	824	0.0%

Table 32. Forecast of operational data of the pulp segment

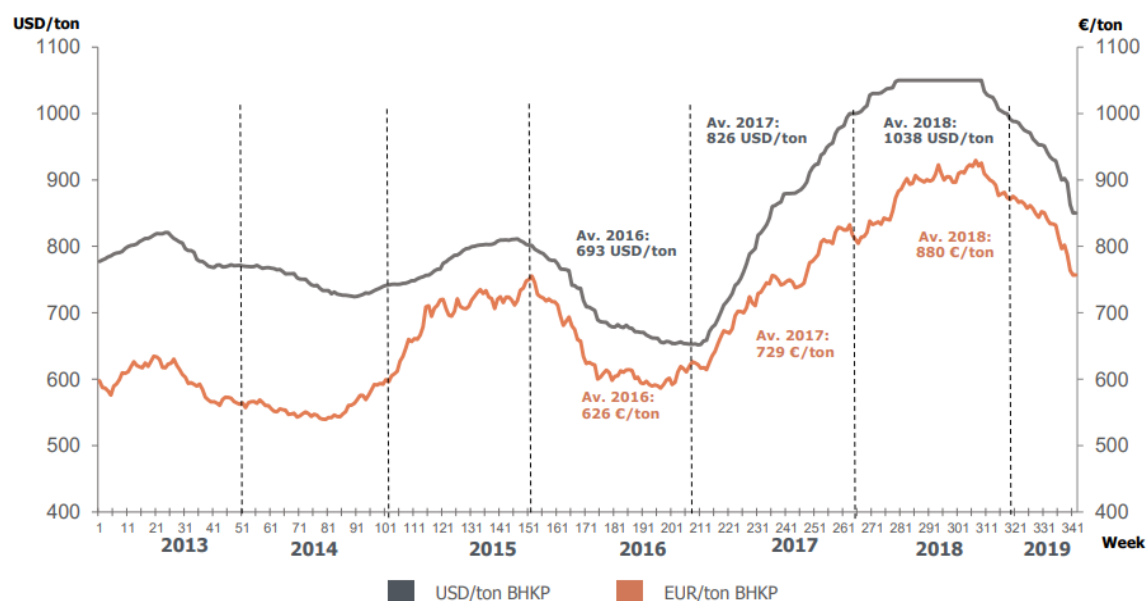
Pulp	2019F	2020F	2021F	2022F	2023F	CAGR (%)
Production Capacity (thousand ton)	1600	1600	1600	1600	1600	0.0%
Production total (thousand ton)	1574	1574	1600	1600	1600	0.4%
Capacity Utilization Rate	98.4%	98.4%	100.0%	100.0%	100.0%	
Quantity Sold (thousand ton)	265	261	261	257	269	0.4%
Quantity Sold (million €)	179	180	184	185	198	2.6%
Average sale price (€/ton)	675	689	705	721	737	2.2%

Figure 40. Evolution of the European market paper price - A4 B-Copy (EUR per ton)



Source: FOEX; Navigator Presentation

Figure 41. Evolution of the BHKP price in Europe (USD per ton and EUR per ton)



Source: FOEX; Navigator Presentation

Table 33. Forecast of operational data of the energy segment

Energy	2019F	2020F	2021F	2022F	2023F	CAGR (%)
Production total (Gwh)	2152	2114	2077	2040	2004	-1.8%
Quantity Sold (Electricity)	1677	1595	1595	1518	1518	-2.5%
Quantity Sold (million €)	168	164	167	163	167	-0.3%
Average sale price (€/Gwh)	100	103	105	107	110	2.2%

Table 34. Forecast of operational data of the tissue segment

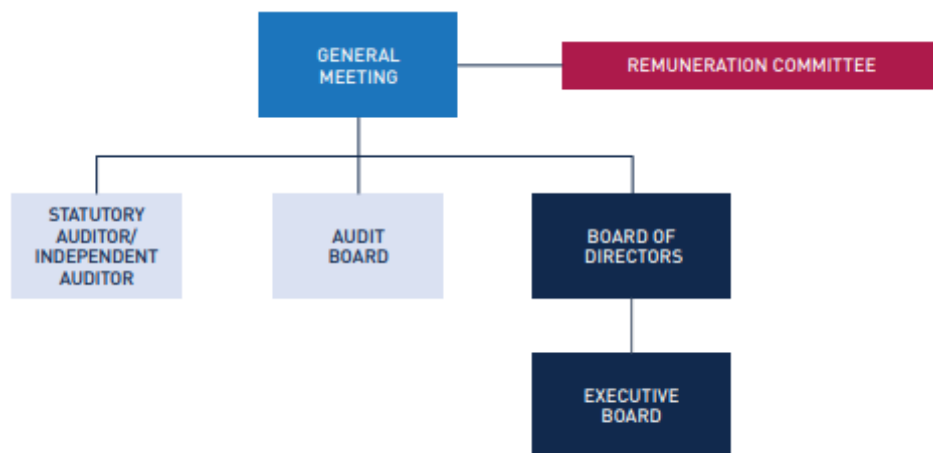
Tissue		2019F	2020F	2021F	2022F	2023F	CAGR (%)
Production total (thousand ton)	Reels	93	121	124	127	127	8.1%
	Finished Products	82	101	124	102	118	9.6%
Quantity Sold (thousand ton)	Reels	9	15	17	19	19	20.5%
	Finished Products	102	116	130	130	130	6.3%
Quantity Sold (million €)		153	179	202	205	205	7.7%

Table 35. Forecast of operational data of the cement segment in Portugal

in thousand ton		2019F	2020F	2021F	2022F	2023F
Cement and Clinker	Domestic	1175	1195	1215	1236	1257
	External	1030	1047	1062	1078	1095
Cement and Clinker Sales		2205	2241	2277	2314	2351
Ready-Mixed Concrete Sales m3		1118	1137	1156	1176	1196
Aggregates Sales		3813	3878	3943	4011	4079
Mortars and Binders Sales		202	205	209	212	216
Pre-Cast Concrete Sales		116	118	120	122	124
Quantity Sold		7454	7580	7706	7835	7966
Turnover in million euros		328	339	350	363	376
Average sale price		43.97	44.71	45.47	46.29	47.17

Appendix G: Governance Model

Figure 42. Organization of Semapa's different bodies and committees



Source: Corporate Data - Semapa

Appendix H: Semapa key Management Personnel

Table 36. Composition of the Board of Directors

Name	Function at 31-12-2021	Remuneration	
		Fixed	Variable ⁴
Pedro Mendonça de Queiroz Pereira ¹	Chairman of Executive Board	344,576.14	922,866.00
Heinz- Peter Elstrodt ²	Chairman of Executive Board	-	-
João Nuno de Sottomayor Pinto de Castello Branco	Chairman of Executive Committee	761,199.25	662,411.00
José Miguel Pereira Gens Paredes	Executive Director	315,969.50	564,464.00
Paulo Miguel Garcês Ventura	Executive Director	315,969.50	541,667.00
Ricardo Miguel dos Santos Pacheco Pires	Executive Director	295,381.25	535,403.00
António Pedro de Carvalho Viana-Baptista	Non-Executive Director	128,305.13	-
Carlos Eduardo Coelho Alves	Non-Executive Director	77,825.00	-
Filipa Mendes de Almeida de Queiroz Pereira	Non-Executive Director	47,466.66	-
José António do Prado Fay	Non-Executive Director	78,259.58	-
Lua Mónica Mendes de Almeida de Queiroz Pereira	Non-Executive Director	47,466.66	-
Francisco José Melo e Castro Guedes	Non-Executive Director	77,825.00	-
Mafalda Mendes de Almeida de Queiroz Pereira	Non-Executive Director	47,466.66	-
Manuel Custódio de Oliveira ³	Non-Executive Director	45,337.50	-
Vítor Manuel Galvão Rocha Novais Gonçalves	Non-Executive Director	77,825.00	-
Vítor Paulo Paranhos Pereira	Non-Executive Director	128,305.13	-
Note: amount in Euro		2,789,177.96	3,226,811.00

Source: Annual Report 2018 - Semapa

¹Held office as Chairman of the Board of Directors

²Serves as Chairman of the Board of Directors as decided by the General Meeting on October 2018

³Held office as Non-Executive of the Board of Directors

⁴Remuneration was paid in 2018 but refers to the performance of 2017

Table 37. Composition of the Audit Board

Name	Function at 31-12-2021	Remuneration Fixed
Miguel Camargo de Sousa Eiró ⁵	Chairman	13,369.21
José Manuel Oliveira Vitorino ⁶	Chairman	20,303.88
Gonçalo Nuno Palha Gaio Picão Caldeira	Member	15,999.97
Maria da Graça Torres Ferreira da Cunha Gonçalves	Member	9,758.63
Note: amount in Euro		59,431.69

Source: Annual Report 2018 - Semapa

⁵Held office as Chairman of the Auditor Board until 24 May 2018

⁶Serves as Chairman of the Auditor Board as decided by the General Meeting on 24 May 2018

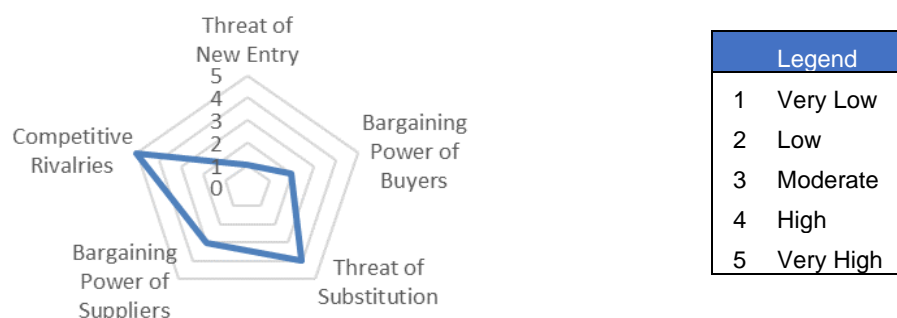
Table 38. Composition of the Remuneration Committee

Name	Function
José Gonçalo Ferreira Maury	Chairman
Frederico José da Cunha Mendonça e Meneses	Member
João Rodrigo Appleton Moreira Rato	Member

Source: Annual Report 2018 - Semapa

Appendix I: Porter's five Forces Analysis

Figure 43. Porter's 5 Forces of The Navigator Company



Threat of New Entry (Very Low: 1)

This industry depends on capital intensive with very high costs of investment in machine and high fixed maintenance costs. Besides that, if a new company arises should be able to produce raw material – in this case, wood – as the base to the production of pulp, paper, and tissue, or else, the variables costs could be very high and inconstant. For these reasons, the threat of new entrants is low, being only possible the entrance of new firms that already work in the forestry area.

Bargaining Power of Buyers (Low: 2)

Buyers have a low bargaining power due to the fact they choose the paper according to their needs and there is no big difference between papers in the same segment. Even though there are a lot of competitors in this industry, the customer usually who know the brand tend to be loyal to it.

Threat of Substitution (High: 4)

There is a high possibility of the appearance of new products that can serve as substitutes for a major business segment of The Navigator Company, the paper segment. The threat of substitution is digital form because eliminates the costs of printing, storing, and distributing paper forms, since the usage of digital forms contributes to the sustainability for our planet. In some areas, the paper is still preferred. Hence, with all those reasons make substitution a high threat.

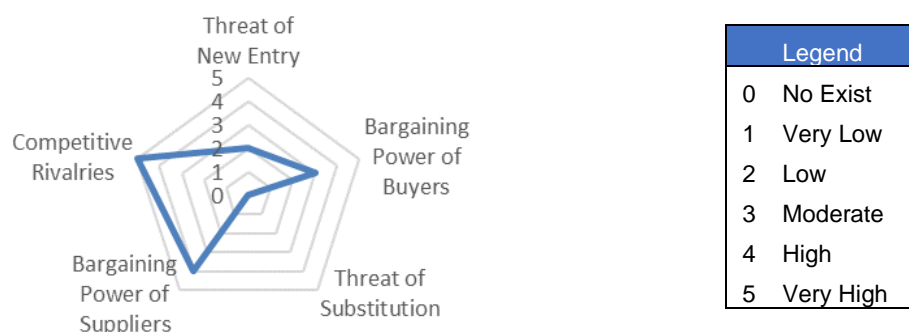
Bargaining Power of Suppliers (Moderate: 3)

The eucalyptus wood extraction is an important activity for the company, as wood is the main raw material used in pulp production. However, in this industry, there are suppliers providing raw materials where the company has to buy wood to cover all production needs since the trees planted have a natural cycle, and only a part of the wood will be ready to use each year. The factor that restrains the suppliers is certified wood, since the supply of wood, particularly eucalyptus, is subject to price and exchange rate fluctuations and possible difficulties found in the supply of raw materials. The other relevant factor is the volatility of wood transport cost to the mills, depending on oil price and sea or truck transportation costs. So that the supplier's power of bargaining in this sector is moderate since the company has 7.658 suppliers (72% are Portuguese suppliers).

Competitive Rivalries (Very High: 5)

The competition in the industry is very high once those companies deliver the same service and compete with international companies. The market of Navigator is relatively small compared to the main competitors. However, this industry competes mostly through product quality and differentiation, being that the companies must invest in R&D and so that gain access to new production technologies and competitive products.

Figure 44. Porter's 5 Forces of Secil Group



Threat of New Entry (Low: 2)

The construction sector has a low threat of new competitors, due to the investment intensive in specific goods that cannot be effortlessly turned into another industry. Also, in recent years, environmental legislation has become more restrictive regarding the control of environmental emissions, reducing CO₂ emissions. With this legislation, the government tends to restrict the number of new rivals and implement strict environmental regulation. Also, if occur a new entry with only a single plant location, will be facing large sunk cost due to the fixed supply capacity and volatile demand.

Bargaining Power of Buyers (Moderate: 3)

In this kind of industry, the price does not matter to the buyers, due to the need for the product as demand is inelastic. However, switching cost is lower in the same segment, when compared in different segments given the lack of product differentiation. All these conditions make moderate buyers bargaining power due to lack of substitutes.

Threat of Substitution (No exist: 0)

The cement has no substitute. There is no possibility of the appearance of new innovative products and technologies that can serve as substitutes of the products sold by Secil. Still, the firms can use less cement in replacement for using other materials like steel, aluminium or wood, but the overall substitution impacts inconsequential in the industry.

Bargaining Power of Suppliers (High: 4)

In the segment of cement and derivatives, the main raw materials in the manufacturing process of cement are limestone and clay, the extraction of which is carried out in own quarries with reserves that ensure the operations, for this reason, there is no supplier in this area. Though, the industry is dependent on quantities of electricity, fuels and transportation companies (road, rail, and marine) that have capabilities to distribute the product. Thereby, suppliers can exert influence on the price that can hurt the financial situation and operating profit of the producer.

Competitive Rivalries (Very High: 5)

The local producers and global competitors in this industry compete mostly through product price, quality, and service, but the main factor of differentiation is price. With the oligopolistic structure of the cement market, it considers that a high industry rivalry. Hence, to increase their competitiveness, companies must make merger and acquisitions deals, as the cement is a mature industry and the degree of concentration is still low.

Appendix J: SWOT Analysis

Table 39. SWOT analysis – The Navigator Company

Strengths	Weaknesses
<ul style="list-style-type: none"> Geographic diversification of exports sales to 130 countries Leader in the UWF paper premium segment Great recognition of your brands Strong technological capabilities and efficiency in production 	<ul style="list-style-type: none"> Cyclical business Growth in energy and wood costs can compromise the profit margin The production unit are very concentrated in Portugal Pulp market is dependent demand Chinese (China represent more than 1/3 of demand world)
Opportunities	Threats
<ul style="list-style-type: none"> Growth of pulp and tissue market Consolidate and extend leadership to tissue and pulp sectors Extraction wood from Eucalyptus planted in Mozambique 	<ul style="list-style-type: none"> Environmental legislation (Eucalyptus) Price volatility in pulp and wood Decrease in the consumption of paper Increasing trend of energy and transportation costs

Table 40. SWOT analysis – Secil Group

Strengths	Weaknesses
<ul style="list-style-type: none"> Wide geographical diversification Vertical integration 	<ul style="list-style-type: none"> Dependency on weather state Uncertain environmental legislation Cyclical business
Opportunities	Threats
<ul style="list-style-type: none"> Higher market pressure to raise prices Growing social responsibility and conscience 	<ul style="list-style-type: none"> Volatility in energy costs Political uncertainty and disputes in some markets Exchange rate movements Increase of interest rates

Appendix K: Valuation Methodologies

In order to estimate the company value, which is also called Free Cash Flow to Firm (FCFF), used the following formula:

$$FCFF = EBIT (1 - t) + D\&A - \text{Net Increase NWC} - CAPEX$$

t= margin tax rate

Weighted Average Cost of Capital (WACC)

The weighted average cost of capital is the average of the equity and the debt cost by their respective weight at the total liabilities, obtaining an average cost of the total liabilities used.

$$WACC = W_E \times K_E + W_D \times K_D \times (1 - t_c)$$

Where,

Cost of Equity (K_E): The cost of equity can be estimated using the Capital Asset Pricing Model (CAPM), which applies to the return on the investor. The model describes the relationship between risk and expected return and is based on the assumption that the investor must choose an asset portfolio which maximizes its utility. The CAPM formula is composed of several elements, such as the interest rate and the risk associated. It is represented as it follows:

$$K_E = R_f + \beta (R_m - R_f)$$

Risk-free rate (R_f): This rate should reflect the analytical return for an investor which invests in riskless assets. Furthermore, the risk-free rate depends on how long the investor thinks to maintain the investments. Hence, the investor who forecasts holding an investment for 5 to 10 years necessitates using either a 5 or a 10-year riskless rate. Thereby, we intend to determine the value for investors seeking long-term investments and use the YTM on the German Treasury bond for 10-year maturity for a riskless investment for Germans investor at current market conditions.

Levered Beta (β_L): The beta coefficient indicates if an investment is volatile than the market. If more than 1, it means the firm is more volatile than the market and less than 1, it is the contrary trend. In case of The Navigator Company, we saw the unlevered beta of the industry using the Aswath Damodaran's calculations as in January 2019 of 1.17, then, we used the formula below in order to reach the beta levered of 1.75. In the case of Secil, was used the same method but for the building materials sector (with unlevered beta of 0.91).

$$\beta_L = \beta_U \times \left[1 + \frac{D}{E} * (1 - t) \right]$$

Market Risk Premium (MRP): The MRP assesses the expected return on investment an investor considers making. From a macroeconomic perspective, the MRP reflects the more comprehensive prospect on the whole economy. In case of The Navigator Company, in our estimate, we use the database of Aswath Damodaran to approach the MRP for Portuguese. For Secil, the MRP is an average of the market risk premium weight that each country on total revenues of Secil, the value of MRP was withdrawn of the same source.

Cost of Debt (K_D): The cost of debt is determined in the sum of R_f plus the spread of the debt. For Navigator, maintain a long-term *rating* "BB" by the rating agency S&P, revealing a stable perspective. Then, we assumed the spread value of calculations from Aswath Damodaran in January 2019. For Secil, will be assumed that Secil has a lower rating classification than Navigator. Hence, will be considered that is a *rating* B. We used the formula below:

$$K_D = R_f + \text{Credit Spread}$$

Corporate Tax Rate (T): For Navigator, we consider the current Portugal law on corporate tax rate. The law states that a company pays a general corporate tax rate equal for all companies plus a municipal surcharge. The final rate used was 22.5%, where 21% refers to the general corporate tax rate in Portugal and 1.5% for a municipal surcharge. For Secil, the tax rate used is an average of all tax rates of countries where Secil operates.

Terminal Value (TV): The terminal value is a key element of the Discounted Cash Flow. Our assumption assumed the perpetuity growth method, this method assumes that the growth of the company will continue (stable growth rate). To calculate the terminal value was used this formula:

$$TV = \frac{FCFF (1 + g)}{WACC - g}$$

Appendix L: Discounted Cash Flow Assumption – The Navigator Company

Table 41. WACC assumptions – The Navigator Company

Weighted Average Cost of Capital		
Risk-Free Rate (Rf)	-0.69%	German 10 year's government bond yield on 27 August 2019, taken from Bloomberg (GTDEM10Y:GOV) (Bundesrepublik Deutschland Bundesanleihe)
Market Risk Premium (MRP)	9.02%	Aswath Damodaran calculations as in January 2019
Beta levered (β)	1.75	Aswath Damodaran calculations as in January 2019
Cost of Equity (Ke)	15.07%	Computed by the CAPM formula: $Ke = Rf + \beta * MRP$
Cost of Debt	3.59%	Market yield on government bond plus credit risk spread
Corporate Tax Rate	22.50%	Statutory tax rate in Portugal plus municipal surcharge
After-Tax Cost of Debt	2.78%	
Capital Structure	-	The terminal value of 80% equity and 20% debt is considered
Terminal Growth Rate	2.00%	

Table 42. Detailed Navigator Company Capex

	2018H	2019F	2020F	2021F	2022F	2023F
Capex						
Expansion Development CAPEX	128.80	40.00	15.00	0.00	0.00	0.00
Maintenance & recurring CAPEX	81.00	70.00	70.00	70.00	70.00	70.00
Regulatory CAPEX	6.50	30.00	30.00	30.00	30.00	30.00
Capex Net	216.30	140.00	115.00	100.00	100.00	100.00
Depreciation and Impairment						
Depreciation	144.13	140.49	140.43	137.55	133.29	129.52
Impairments	0.00	0.14	0.14	0.13	0.12	0.12
Total Depreciation and Impairments	144.13	140.63	140.57	137.68	133.41	129.63
Property, Plant & Equipment						
At cost of Acquisition	4,138.20	3,997.23	3,831.37	3,656.28	3,489.70	3,330.67
Accumulated depreciation/impairment	2,899.19	2,758.71	2,618.28	2,480.73	2,347.44	2,217.93
Net book Value	1,239.01	1,238.52	1,213.09	1,175.55	1,142.26	1,112.74

Table 43. Debt of The Navigator Company

	2017H	2018H	2019F	2020F	2021F	2022F	2023F
Non-Current Liabilities							
Bond Loans (without commission)	343296617	343504299	393711981	393890826	249044838	249177464	169291676
European Bank Investment							
Loan BEI Ambiente A							
Loan BEI Ambiente B	8333333	5000000	1666667	0	0	0	0
Loan BEI Energia	42500000	35416667	28333334	21250001	14166668	7083335	0
Loan BEI Aveiro	25000000	23611111	22222222	20833333	19444444	18055555	16666666
Loan BEI Figueira	0	0	40000000	36000000	32000000	28000000	24000000
Commercial Paper program (without commissions)	244484234	244493045	239501856	189510514	139519021	139527381	139535595
Reimbursable grants	4237695	0	0	0	0	0	0
Total	667851880	652025122	725436060	661484674	454174971	441843735	349493937
Current Liabilities							
European Bank Investment							
Loan BEI Ambiente A	9285714	0	0	0	0	0	0
Loan BEI Ambiente B	3333333	3333333	3333333	1666667	0	0	0
Loan BEI Energia	7083333	7083333	7083333	7083333	7083333	7083333	7083335
Loan BEI Aveiro	0	1388889	1388889	1388889	1388889	1388889	1388889
Loan BEI Figueira				4000000	4000000	4000000	4000000
Commercial Paper program	25000000	100000000	70000000	50000000	45000000	40000000	30000000
Financing	105503210	0	0	0	0	0	0
Total	150205591	111805556	81805555	64138889	57472222	52472222	42472224

Appendix M: Discount Cash Flow Analysis – The Navigator Company

Table 44. DCF Analysis - The Navigator

DCF Analysis	2019F	2020F	2021F	2022F	2023F	Terminal Value
Cost of Equity						
Risk-free rate (Rf)	-0.69%	-0.69%	-0.69%	-0.69%	-0.69%	-0.69%
Market Risk Premium (MRP)	9.02%	9.02%	9.02%	9.02%	9.02%	9.02%
Beta (β)	1.75	1.75	1.75	1.75	1.75	1.75
Cost of Equity (Ke)	15.07%	15.07%	15.07%	15.07%	15.07%	15.07%
Cost of Debt						
Cost of Debt	3.59%	3.59%	3.59%	3.59%	3.59%	3.59%
Corporate Tax Rate	22.50%	22.50%	22.50%	22.50%	22.50%	22.50%
After-tax Cost of Debt	2.78%	2.78%	2.78%	2.78%	2.78%	2.78%
WACC						
Weight of Equity	61.11%	65.32%	74.42%	76.75%	82.09%	80.00%
Weight of Debt	38.89%	34.68%	25.58%	23.25%	17.91%	20.00%
WACC	10.29%	10.81%	11.93%	12.21%	12.87%	12.61%

Table 45. FCFF – The Navigator Company

Millions EUR	2019F	2020F	2021F	2022F	2023F
EBIT (1-tax rate)	261.71	276.85	295.33	308.39	325.70
D&A	140.63	140.57	137.68	133.41	129.63
Net Increase in NWC	-1.57	2.38	2.86	-0.28	1.91
Capex	140	115	100	100	100
FCFF	263.91	300.04	330.14	342.08	353.42
Discounted FCFF	263.91	270.77	263.53	242.10	217.77
Cumulative FCFF	263.91	534.68	798.22	1040.32	1258.09

Table 46. The Navigator Company forecast EV and DCF price target

Enterprise Value	
Terminal Value	3397.062
PV of Terminal Value	2112.353
PV of FCFF	1258.09
Enterprise Value	3370.44
(+) Cash	208.23
(-) Debt	807.24
(-) Provisions	43.07
(-) Other Non-Current Liabilities	82.32
(-) Non-Controlling Interests	0.20
(-) Liabilities of Defined Benefits	7.32
Equity Value	2638.52
No. of Shares Outstanding	717.5
Equity Value per share	3.68
Discount	10%
Equity Value per share	3.31

Price on September 9	3.16
Upside level	4.74%

With the DCF method a target price of €3.31 was reached with a upside risk 4.74%. This concludes that The Navigator Company is currently undervaluated.

Appendix N: Discounted Cash Flow Assumption – Secil

Table 47. WACC assumptions – Secil

Weighted Average Cost of Capital	Portugal	Angola	Brazil	Lebanon	Tunisia	
Risk-Free Rate (Rf)	-0.69%	-0.69%	-0.69%	-0.69%	-0.69%	German 10 year's government bond yield on 27 August 2019, taken from Bloomberg (GTDEM10Y:GOV) (Bundesrepublik Deutschland Bundesanleihe)
Market Risk Premium (MRP)	9.02%	14.99%	10.13%	14.99%	13.60%	Aswath Damodaran calculations as in January 2019
Beta levered (β)	1.90	1.80	1.75	1.97	1.87	Aswath Damodaran calculations as in January 2019
Cost of Equity (Ke)	16.44%	26.35%	17.06%	28.83%	24.71%	Computed by the CAPM formula: $Ke=Rf+\beta*MRP$
Cost of Debt	5.39%	5.39%	5.39%	5.39%	5.39%	Market yield on government bond plus credit risk spread
Corporate Tax Rate	22.50%	30.00%	34.00%	17.00%	25.00%	Statutory tax rate in Portugal plus municipal surcharge
After-Tax Cost of Debt	4.18%	3.78%	3.56%	4.48%	4.04%	
Capital Structure	-	-	-	-	-	The terminal value of 55% equity and 45% debt is considered
Terminal Growth Rate	2.00%	2.00%	2.00%	2.00%	2.00%	

Table 48. Detail Secil Capex

	2018H	2019F	2020F	2021F	2022F	2023F
Capex						
Capex	24.66	26.97	26.97	26.97	26.97	26.97
Capex Net	24.66	26.97	26.97	26.97	26.97	26.97
Depreciation and Impairment						
Depreciation and Amortization	58.18	51.03	49.68	48.34	47.35	46.30
Impairments	0.22	0.04	-0.01	-0.06	-0.10	-0.14
Total Depreciation, Amortization and Impairments	58.40	51.07	49.67	48.28	47.24	46.16
Property, Plant & Equipment						
At cost of Acquisition	2,179.21	2,121.80	2,066.87	2,014.21	1,963.65	1,915.00
Accumulated depreciation/impairment	1,660.52	1,618.33	1,577.38	1,537.57	1,498.80	1,460.99
Net book Value	518.69	503.47	489.49	476.64	464.84	454.00

Table 49. Debt of Secil

	2017H	2018H	2019F	2020F	2021F	2022F	2023F
Non-Current Liabilities							
Bond Loans							
Secil 2015-2020	80000000	80000000	80000000	0	0	0	0
Secil 2015-2020	60000000	60000000	60000000	0	0	0	0
Secil 2016-2021	26000000	26000000	26000000	26000000	0	0	0
Secil 2016-2021	30000000	30000000	30000000	30000000	0	0	0
Secil 2017-2022	20000000	20000000	20000000	20000000	20000000	0	0
Secil 2018-2023	0	20000000	20000000	20000000	20000000	20000000	0
Bank loan	95452418	61024112	61024112	61024112	61024112	61024112	61024112
Commercial paper	142000000	125000000	125000000	125000000	125000000	125000000	125000000
Finance leases - instalments payable		1105745	1105745	1105745	1105745	1105745	1105745
Commissions from bank loans	-2702849	-1783631	-864413	-418926	-203027	-98394	-47686
Total	450749569	421346226	422265444	347710931	291926830	312031463	352082171
Current Liabilities							
Bank Loans	54318699	61585560	61585560	61585560	61585560	61585560	61585560
Commercial paper	25000000						
Bank overdrafts	2127464	4105680	4105680	4105680	4105680	4105680	4105680
Finance leases - instalments payable	667005	125209	125209	125209	125209	125209	125209
Commissions from bank loans	-1415182	-1354928	-1294674	-1237100	-1182085	-1129518	-1079288
Total	80697986	64461521	64521775	64579349	64634364	64686931	64737161

Appendix O: Discount Cash Flow Analysis – Secil

Table 50. DCF Analysis – Secil

	Portugal	Angola	Brazil	Lebanon	Tunísia
E/D+E	41.62%	41.62%	41.62%	41.62%	41.62%
D/D+E	58.38%	58.38%	58.38%	58.38%	58.38%
WACC	9.28%	13.17%	9.18%	14.61%	12.64%
% revenues	58.83%	2.58%	14.37%	14.91%	9.30%
WACC final (2019)	10.48%				
E/D+E	45.85%	45.85%	45.85%	45.85%	45.85%
D/D+E	54.15%	54.15%	54.15%	54.15%	54.15%
WACC	9.80%	14.12%	9.75%	15.64%	13.52%
% revenues	59.05%	2.58%	14.29%	14.76%	9.32%
WACC final (2020)	11.12%				
E/D+E	50.05%	50.05%	50.05%	50.05%	50.05%
D/D+E	49.95%	49.95%	49.95%	49.95%	49.95%
WACC	10.32%	15.07%	10.32%	16.67%	14.39%
% revenues	59.23%	2.56%	14.17%	14.68%	9.36%
WACC final (2021)	11.75%				
E/D+E	49.62%	49.62%	49.62%	49.62%	49.62%
D/D+E	50.38%	50.38%	50.38%	50.38%	50.38%
WACC	10.26%	14.97%	10.26%	16.56%	14.30%
% revenues	59.37%	2.55%	14.03%	14.63%	9.43%
WACC final (2022)	11.69%				
E/D+E	48.20%	48.20%	48.20%	48.20%	48.20%
D/D+E	51.80%	51.80%	51.80%	51.80%	51.80%
WACC	10.09%	14.65%	10.07%	16.22%	14.00%
% revenues	59.49%	2.56%	13.86%	14.59%	9.50%
WACC final (2023)	11.47%				
E/D+E	45.00%	45.00%	45.00%	45.00%	45.00%
D/D+E	55.00%	55.00%	55.00%	55.00%	55.00%
WACC	9.70%	13.93%	9.64%	15.44%	13.34%
% revenues	59.49%	2.56%	13.86%	14.59%	9.50%
WACC final (TV)	10.98%				

Table 51. FCFF – Secil

Millions EUR	2019F	2020F	2021F	2022F	2023F
EBIT (1-tax rate)	27.51	30.97	34.44	38.06	41.77
D&A	49.57	48.02	46.59	45.27	44.04
Net Increase in NWC	-1.83	1.33	1.38	1.52	1.62
Capex	26.97	26.97	26.97	26.97	26.97
FCFF	51.94	50.70	52.68	54.84	57.23
Discounted FCFF	51.94	45.63	42.19	39.37	37.07
Cumulative FCFF	51.94	97.57	139.76	179.12	216.19

Table 52. Secil forecast EV

Enterprise Value	
Terminal Value	649.986
PV of Terminal Value	428.4618
PV of FCFF	216.19
Enterprise Value	644.65
(+) Cash	125.62
(-) Debt	486.79
(-) Provisions	22.21
(-) Other Non-Current Liabilities	54.06
(-) Non-Controlling Interests	56.58
Equity Value	150.65
Discount	20%
Equity Value	120.52

Appendix P: Sum-of-parts Discount Cash Flow – Semapa

Table 53. Semapa's Equity Sum-of-parts – DCF Method

	Semapa's %	Number of shares	Price/share on 09/09/2019	Equity	DCF
The Navigator Company	69.44%	717,500,000	3.16	Market Value	2,374.67
				Navigator's target price	3.31
				Status	undervaluated
				Return	4.74%
				Recommendation	Buy
Secil	99.99%			Market Value	120.52
ETSA	99.99%			Book Value	70.7
- Semapa's Holding Net Debt					471.30
				Market Value	1368.87
				Holding discount	20%
Semapa		81,270,000	12.22	Market Value with discount	1095.09
				Semapa's target price	13.47
				Status	undervaluated
				Return	10.27%
				Recommendation	Buy

Appendix Q: Comparable Companies

To choose the best suited comparable companies of The Navigator Company and Secil, it had consideration some overall limitations, although, it should underline that is extremely difficult to find exact comparable. We adopt a 3-step process, which in each of those steps eliminate firm which does not satisfy the pre-specific acceptability standards.

In case of The Navigator Company operates in the Materials sector and more especially the industry of forest & Paper products, our base sample is obtained from the list of consideration of competitors, according to a presentation of the company and the list leading companies of industry profiles from Moody's Research, in the Amadeus platform and only includes companies with business in these areas, also was taken from Bloomberg some sample considering the peers' description related with sector. In total, we arrived at 22 possible competitor companies taken from both sources.

1st Step: Initial Sample

The initial sample excludes the ones in other sectors of the materials industry such as Containers & Packaging, obtaining only 15 competitor companies of The Navigator Company.

Table 54. Peers: Initial Sample

Company
Stora Enso Oyj
UPM-Kymmene
Arctic Paper
Double A
Fedrigoni
Clairefontaine
Zicunaga
Crown Van Gelder
SAPPI Limited
ENCE Energia y Celulosa, S.A.
Lecta S.A.
Norske Skog AS
Verso Corp
Domtar Corp
WEPA Hygieneprodukte GmbH

2nd Step: Exclude non-traded companies

We only choose publicly traded companies because some of the private companies identified in table 54 do not exhibit important data for our analysis, since a publicly traded company needs to obey various legal obligations, like audited financial information and governance.

Table 55. Peers: Traded

Company
Stora Enso Oyj
UPM-Kymmene
Arctic Paper
SAPPI Limited
ENCE Energia y Celulosa, S.A.
Verso Corp
Domtar Corp

3rd Step: Overall Market Capitalization

For the market capitalization criteria, we applied an upper and lower bound of €1000 million and €6500 million. The following table sums the firms that accomplish all our pre-specified requirements to be recognized as a proper comparable company.

Table 56. Final peers' selection – The Navigator

Company
Stora Enso Oyj
SAPPI Limited
ENCE Energia y Celulosa, S.A.
Domtar Corp

In case of Secil operates in the construction materials sector (sub-sector cement, concrete and aggregates), the first sample was taken from the Global Cement Directory 2019 and from Amadeus platform considering the peers' operating environment. In total, we arrived at 15 possible competitor companies taken from both sources. We adopt a 3-step process, the same that Navigator.

Table 57. Final peers' selection – Secil

Company
Cemex
Lafarge Holcim Ltd
Heidelberg Cement
SA Des Ciments Vicat-Vicat
Buzzi Unicem

Appendix R: Multiples Valuation

Table 58. Peers multiples 2019F – The Navigator

Peers Multiples 2019F		
Multiple	EV/SALES	EV/EBITDA
Stora Enso Oyj	1.25	4.49
SAPPI Limited	0.85	6.44
ENCE Energia y Celulosa, S.A.	2.01	5.99
Domtar Corp	0.54	4.26
Median	1.05	5.24
Average	1.1625	5.295
The Navigator Company	1.93	7.4

Table 59. The Navigator price target - Multiples

Multiple Valuation		
Enterprise Value Multiple	EV/SALES	EV/EBITDA
Multiple	1.1625	5.295
Enterprise Value (Million €)	2068.6715	2604.441
Cash (Million €)	208.23	
Debt (Million €)	807.24	
Equity (Million €)	1,469.66	2,005.43
Navigator's Price	2.05	2.80
Discount	10%	10%
Price target	1.84	2.52
Average Target Price (€)	2.18	

Table 60. Peers multiples 2019F - Secil

Peers Multiples 2019F		
Multiple	EV/SALES	EV/EBITDA
Cemex	1.35	8.63
Lafarge Holcim Ltd	1.48	8.41
Heidelberg Cement	1.12	6.68
SA Des Ciments Vicat-Vicat	1.06	6.47
Buzzi Unicem	1.33	6.56
Median	1.33	6.68
Mean	1.27	7.35
Secil	1.3	5.42

Table 61. Secil equity value - Multiples

Multiple Valuation		
Enterprise Value Multiple	EV/SALES	EV/EBITDA
Multiple	1.27	7.35
Enterprise Value (Million €)	657.51	683.21
Cash (Million €)	125.62	
Debt (Million €)	486.79	
Provisions (Million €)	22.21	
Other Non-Current Liabilities (Million €)	54.06	
Non-Controlling Interests (Million €)	56.58	
Secil's Equity (Million €)	163.50	189.20
Discount	20%	20%
Equity Value (M€)	130.80	151.36
Average Equity (Million €)	141.08	

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